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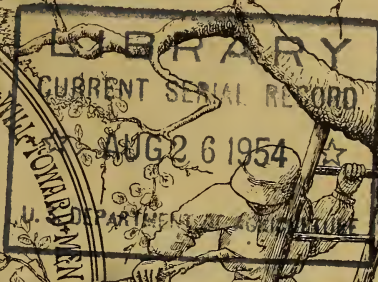
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VOL. XIII. NO. 19.

OCTOBER 1, 1885.

PEACE • ON • EARTH •
GOOD • WILL • TO • MEN



CLEANING
IN

BEE CULTURE

DEVOTED
TO
BEEKEEPING

& HOME INTERESTS.

MEDINA, OHIO

BY

AL ROOT

TERMS, ONE DOLLAR PER YEAR.

ENTERED AT THE POST OFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.

ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions, 20 per cent; 24 insertions, 25 per cent.

On 50 lines (½ column) and upward, 1 insertion, 5 per cent; 3 insertions, 10 per cent; 6 insertions, 15 per cent; 9 insertions, 20 per cent; 12 insertions, 25 per cent; 24 insertions, 33½ per cent.

On 100 lines (whole column) and upward, 1 insertion, 10 per cent; 3 insertions, 15 per cent; 6 insertions, 20 per cent; 9 insertions, 25 per cent; 12 insertions, 33½ per cent; 24 insertions, 40 per cent.

On 200 lines (whole page), 1 insertion, 15 per cent; 3 insertions, 20 per cent; 6 insertions, 25 per cent; 9 insertions, 30 per cent; 12 insertions, 40 per cent; 24 insertions, 50 per cent. A. I. ROOT.

CLUBBING LIST.

We will send GLEANINGS—		
With the American Bee-Journal, W'y	(\$1.00)	\$1.75
With the Bee-keepers' Magazine,	(1.00)	1.75
With the Bee-keepers' Guide,	(.50)	1.40
With the Kansas Bee-keeper,	(1.00)	1.90
With the American Apiculturist,	(1.00)	1.75
With the Canadian Bee Journal, W'y	(1.00)	1.90
With all of the above journals,		7.40

With American Agriculturist,	(\$1.50)	2.25
With American Gardener,	(\$1.00)	1.50
With the British Bee-Journal,	(1.40)	2.25
With Prairie Farmer,	(2.00)	2.75
With Rural New-Yorker,	(2.00)	2.90
With Scientific American,	(3.20)	3.50
With Ohio Farmer,	(1.25)	2.00
With Fruit Recorder and Cottage Gard'r,	(1.00)	1.75
With U. S. Official Postal Guide,	(1.50)	2.25
With Sunday-School Times, weekly,	(2.00)	2.25

[Above Rates include all Postage in U. S. and Canada.]

HEADQUARTERS FOR

Early Italian & Cyprian Queens.

Imported and home-bred; nuclei and full colonies. For quality and purity, my stock of bees can not be excelled in the United States. I make a specialty of manufacturing the Dunham foundation. Try it. If you wish to purchase Bees or Supplies, send for my new Circular containing directions for introducing queens, remarks on the new races of Bees, etc.

Address
11td Dr. J. P. H. BROWN, Augusta, Ga.

Wanted. A competent man to conduct an apiary, also a poultry ranche. Address with reference, L. A. FITZPATRICK, Hyde Park, Phillips Co., Ark.

FLAT - BOTTOM COMB FOUNDATION.



High side-walls, 4 to 14 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS.

4tfd Sole Manufacturers,
SPROUT BROOK, MONT. CO., N. Y.

I WILL SELL

Chaff hives all complete, with lower frames, for \$2.50; in flat, \$1.50; 2-story Simplicity, complete, \$1.25; in flat, 90c.

Comb Foundation, made from pure refined wax, 45c per lb. for heavy; 55 for light. Other supplies. Send for price list. A. F. STAUFFEL,

13tfd Sterling, Whiteside Co., Ill.

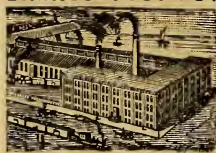
Cash for Beeswax!

Will pay 20c per lb. cash, or 25c in trade for any quantity of good, fair, average beeswax, delivered at our K. K. station. The same will be sold to those who wish to purchase, at 28c per lb., or 35c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

BARNES' FOOT-POWER MACHINERY.



Read what J. I. PARENT of CHARLOTTE, N. Y., says:—“We cut with one of our Combined Machines last winter 50 chaff hives with 7 in. cap, 100 honey racks, 500 broad frames, 2,000 honey boxes and a great deal of other work. This winter we have double the amount of bee hives, etc., to make and we expect to do it all with this Saw. It will do all you say it will. Address—W. F. & JOHN BARNES, No. 68 Ruby street, Rockford, Ill.

will. Catalogue and Price List Free.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. A. I. ROOT. 5tfd

OLD TYPE FOR SALE.

We have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any number of GLEANINGS previous to May 15, 1884. Also 17 lbs. of Italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of “logotypes;” that is, the words *the, and, that, ing, tion, etc.*, are made all on one body, thus facilitating composition. We offer the lot at 15 cts. per lb. A. I. ROOT, Medina, Ohio.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfdd

HONEY AND BEESWAX.

We are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition, just so it is pure. We will sell on commission, charging 5 per cent; or if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Our junior member in this department, Mr. Jerome Twichell, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

15-2db CLEMENS, CLOON & CO., Kansas City, Mo.

TRY THE BELLINZONA ITALIANS,



And see for yourself that they are the best. Warranted Queens, bred from mothers imported direct from the mountains of Italy, \$1.00 each; 6 for \$5.00. Special discount on large orders. Satisfaction guaranteed. Send for circular. Orders filled promptly.

CHAS. D. DUVALL,

15tddb SPENCERVILLE, MONT. CO., MD.

72 Colonies of Bees For Sale.

I will sell the above number of colonies of bees on very reasonable terms. They will have plenty of honey to winter on, and are in good condition otherwise; are in 12-frame hives, with about the same capacity of a 10-frame Simplicity. Correspondence solicited.

17-19db H. F. BARGAR, Border Plains, Webster Co., Iowa.

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EXCHANGE DEPARTMENT.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 5 lines, and you must say you want your ad in this department, or we will not be responsible for any error.

WANTED.—In exchange for new varieties of strawberries and raspberries, Plymouth Rocks, Light Brahmas, Pekin Ducks, new varieties of potatoes, and small-fruit plants, cherry and quince trees. P. SUTTON, Exeter, Luz. Co., Pa. 16-23db

WANTED.—Extracted fall honey (buckwheat or goldenrod) in exchange for hives, sections, etc., either from my catalogue, or made to order. Will pay white-clover prices for a few hundred pounds. C. W. COSTELLO, Waterboro, York Co., Maine.

WANTED.—To exchange bees for small planer for wood, also one for iron. 18-19-20d HENRY PALMER, Hart, Mich.

WANTED.—To exchange for bees, 10,000 Mammoth-Cluster Raspberry-plants; \$1.00 per 100; \$6.00 per 1000; also 20,000 Strawberry-plants, Crescent Seedling, Cumberland Triumph, Sharpless, and Glendale; 75c per 100; \$4.00 per 1000. 18d W. J. HESSER, Plattsmouth, Neb.

WANTED.—To exchange for well-ripened honey fit for winter stores, thoroughbred P. Rock fowls, pure Corbin strain; a Franz & Pope family knitting-machine, almost new; a new model-maker's drill-lathe, eight-inch swing, two-foot bed. 18-19d M. FRANK TABER, Salem, Ohio.

WANTED.—To exchange hybrid bees and queens for fdn., fdn. mill, honey-extractor, saw-mandrel, or offers. Will exchange Blue-Ridge Raspberry-plants for fdn. Correspondence solicited. 18tfdb JOHN W. MARTIN, Greenwood Depot, Alb. Co., Va.

WANTED.—To exchange Syrio-Italian and Red-Clover Italian bees and hybrids in L. and Simplicity hives, for foot-power saw in good order (Barnes preferred), incubator, or printing-press. 19d J. SINGLETON, 34 Public Square, Cleveland, O.

WANTED.—To exchange thoroughbred late spring Brown Leghorn chickens or cockerels for Light or Dark Brahmas, Plymouth Rocks, Langshans, Partridge Cochins, White Leghorns, or others. Must be pure. Correspondence solicited. 19d G. A. FARRAND, Rockport, Cuy. Co., O.

WANTED.—To exchange salt mackerel in 20-lb. pails, for good extracted honey. E. E. LING, 11 Silver St., Portland, Maine.

WANTED.—To exchange one lamp-nursery, scarcely used, and one heavy circular-saw mandrel, 1 15-16-inch shaft, in good order, for any thing useful to a bee-keeper. 19tfdb J. A. GREEN, Dayton, Ill.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. 1st. If wanted sooner, or later, see rates in price list.

- *A. I. Root, Medina, Ohio.
- *H. H. Brown, Light Street, Columbia Co., Pa. 19tf
- *Paul L. Viallon, Bayou Goula, La. 19tf
- *S. F. Newman, Norwalk, Huron Co., O. 19tf
- *Wm. Ballantine, Sago, Musk. Co., O. 19tf
- *D. G. Edmiston, Adrian, Len. Co., Mich. 15td
- *S. G. Wood, Birmingham, Jeff. Co., Ala. 19tf
- *S. C. Perry, Portland, Ionia Co., Mich. 15td
- *H. J. Hancock, Siloam Springs, Benton Co., Ark. 15td
- *E. T. Lewis, Toledo, Lucas Co., O. 3-1
- *C. C. Vaughn, Columbia, Maury Co., Tenn. 15-19
- S. H. Hutchinson & Son, Claremont, Surry Co., Va. 5-3
- *E. Kretschmer, Coburg, Mont. Co., Iowa. 17td
- D. McKenzie, Camp Parapet, Jeff. Parish, La. 19td
- *J. J. Martin, N. Manchester, Wabash Co., Ind. 7-19
- Cornelius Bros., LaFayetteville, Dutch. Co., N. Y. 7-19

- Peter Brickey, Lawrenceburgh, And. Co., Ky. 17-23
- Ira D. Alderman, Taylor's Bridge, Samp. Co., N. C. 19td
- *J. W. Keeran, Bloomington, McLean Co., Ill. 11-21
- *Haines Bros., Moons, Fayette Co., O. 13-23
- G. F. Smith, Bald Mount, Lack'a Co., Pa. 15td
- Jos. Byrne, Baton Rouge, Lock Box 5, East Baton Rouge Par., La. 15td
- S. P. Roddy, Mechanicstown, Fred. Co., Md. 15-19d
- *Calvin Bryant, Palestine, And. Co., Tex. 15-21
- *J. B. Hains, Bedford, Cuyahoga Co., O. 15-19

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

- A. I. Root, Medina, Ohio.
- P. L. Viallon, Bayou Goula, Iberville Par., La. 19td
- C. W. Costellow, Waterboro, York Co., Me. 21-23
- Kennedy & Leahy, Higginsville, Laf. Co., Mo. 17td
- E. T. Lewis, Toledo, Lucas Co., Ohio. 3-1
- H. F. Moeller, cor. 5th st. and Western Ave., Davenport, Ia. 3-1
- E. Kretschmer, Coburg, Montgomery Co., Ia. 17td
- C. P. Bish, Petrolia, Butler Co., Pa. 15-1

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfdb

HONEY COLUMN.

CITY MARKETS.

KANSAS CITY.—*Honey.*—We now report a very firm market, with some advances in prices, though the trade takes hold "gingerly" as yet, and squealing like pigs when the advance is quoted them. We are now holding for 16@17c on fancy white 1-lb. sections; 15@16c for 2-lb., and 12@13c for California. We are short on fancy 1-lb. sections, and would suggest this as a good time to ship and realize good prices. Extracted, a little firmer, at about same prices; viz., Miss., La., and Tex., 4@6c.; Cal., 7@8c. White clover, 7@8. *Beeswax.*—Unchanged, 26@25, according to quality. CLEMONS, CLOON & Co., Cor. Fourth & Walnut St's, Kansas City, Mo.

BOSTON.—*Honey.*—We have received quite a large stock of honey, mostly from Vermont, and the quality is very fine. We are doing the best we can to keep the price up, where bee-keepers can get something for their honey. One of the largest producers sold his entire crop at a *very low price*, and it is being sold here at a price that would give the bee-keeper nothing. We still hold our price, 16@18c for 1 pound, 14@16c for 2 pounds. Extracted, 6@8c. *Beeswax*, 30c. BLAKE & RIPLEY, Sept. 21, 1885. 57 Chatham St., Boston, Mass.

CINCINNATI.—*Honey.*—No change whatever in the honey or beeswax market since my last. Sept. 25, 1885. CHAS. F. MUTH, Cincinnati, Ohio.

CHICAGO.—*Honey.*—Honey is coming forward in amounts about equal to the demand. White comb honey in one-pound frames, or about, brings 15@16c when put up in the small crate, and frames all scraped clean, and put in so that it won't chafe. Buckwheat or dark comb is about unsalable, extracted selling from 5@8c according to quality. *Beeswax*, 25@25c. R. A. BURNETT, Sept. 24, 1885. 161 So. Water St., Chicago, Ill.

CLEVELAND.—*Honey.*—Honey seems to be unusually dull for this time of year. It moves very slowly at 14@15 cts. for best 1-lb. sections. Old honey at 10@12c. shares the same fate. Extracted is dull at 7@8. *Beeswax*, 22. A. C. KENDEL, Sept. 21, 1885. 115 Ontario St., Cleveland, O.

MILWAUKEE.—*Honey.*—This market is in good shape for shipments of honey. Choice white 1-lb. sections salable at 17@18c. Dark, not in demand. Price nominally, 12½@15c. Extracted, *white*, in 100-lb. kegs, in good demand at 8c. *Beeswax*, dull. Quotable at 25@28c. A. V. BISHOP, Sept. 23. 142 W. Water St., Milwaukee, Wis.

DETROIT.—*Honey.*—One-pound sections are selling readily at 16@17 c. A. B. WEED, Sept. 21, 1885. 407 Woodward Ave., Detroit, Mich.

INDIANAPOLIS.—*Honey.*—We are trying to build up an exclusive honey trade. Being also producers, it gives us some advantage. We are disposing of lots on commission, and would be pleased to hear from those who would like to try our market. Sept. 12, 1885. FRANK L. DOUGHERTY, 532 East Washington Street, Indianapolis, Ind.

FOR SALE.—1000 lbs. of well-ripened linden extracted honey, in 55-lb. iron jacket, tin cans, at 7 cts. per lb., and A. I. Root's price of can. Will ship in 40-lb. tin cans, if desired, purchaser paying for cans. MRS. NELLIE M. OLSEN, 19d Nashotah, Waukesha Co., Wisconsin.

FOR SALE.—8000 lbs. of extracted basswood honey in ½ bbls.; net weight 185 lbs. I will take 8 cts., barrel thrown in. JOHN H. MARTIN, Hartford, N. Y.

FOR SALE.—Extracted clover and basswood honey in ten-gallon kegs at 8c per lb. I will throw in kegs, and deliver on board cars free of charge. M. ISBELLE, Norwich, N. Y.

CONVENTION NOTICE.—The next annual meeting of the Northern Michigan Bee-Keepers' Society will be held at the council rooms in Sheridan, Oct. 22 and 23, 1885. A cordial invitation is extended to all. F. A. PALMER, Sec.

❖ FOR SALE. ❖

I WILL SELL

Full Swarms of Pure Italian Bees
DURING THIS MONTH FOR

Four Dollars Each.

They are in 10-frame Simplicity hives, and in good winter shape. Ready to ship now. Send money by registered letter. Address

M. R. NICHOLS,
19tfdb Weaver's Corners, Huron Co., O.

Reduction in Prices of the PASTEBOARD BOXES FOR ONE-POUND SECTIONS OF COMB HONEY.



This box has a bit of "red tape" attached to it to carry it by. It makes a safe package for a single section of honey for the consumer to carry, or it can be packed in a trunk, if he wants. It can be opened in an instant. The price of the box is 2 cts. each, set up; in the flat, 15 cts. for 10; package of 25, 30 cts.; \$1.00 per 100; or \$9.00 per 1000; 10,000, \$80. If wanted by mail, add \$1.00 per hundred for postage. Colored lithograph labels for putting on the sides, two kinds, one for each side, \$3.00 per 1000. A package of 25, labeled on both sides, as above, 50 cts. By mail, 30 cts. more. They can be sold, labeled on one side or both sides, of course. We have only one size in stock, for Simplicity sections. Sample by mail, with a label on each side, 5 cts. If you want them shipped in the flat, labels already pasted on, the price will be ten cents per hundred for putting them on.

Your name and address, and the kind of honey, may be printed on these labels, the same as other labels. The charge for so doing will be 30 cts. per per 100; 250, 50 cts.; 500, 75 cts.; 1000, \$1.00.

A. I. ROOT, Medina, Ohio.

HYDROMETERS FOR TESTING HONEY.

We have succeeded in getting a beautiful little instrument, all of glass, that will indicate the density of honey or maple syrup, or any kind of syrup, by simply dropping it into the liquid. I am greatly surprised that we can furnish so beautiful an instrument for so small a sum of money. Price 35c. By mail, 10c extra. Per 10, \$3.00; per 100, \$25.00. A. I. ROOT, MEDINA, OHIO.

WANTED. After Nov. 1st, position in some Southern State as apiarist. For terms and reference address CHAS. E. THOMPSON, FORT OMAHA, NEB. 19d

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock, and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

Hybrid queens, 50 cts. each; black queens, 25 cts. each; from Aug. 1st to Oct. 1st, safe arrival guaranteed. G. K. RAUDENBUSH, Reading, Berks Co., Pa.



Vol. XIII.

OCT. 1, 1885.

No. 19.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.

PUBLISHED SEMI-MONTHLY BY

A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 50 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

NOTES FROM THE BANNER APIARY.

NO. 70.

DRONE COMB AND OLD QUEENS.

YOU ask, friend Root, if we did not have some drone comb built, when we allowed the bees to build their own comb in the brood-nest. Haven't you forgotten how this matter was discussed the last time this subject was up—how Bro. Doolittle took it up and enlarged upon it, illustrated, and explained? Before bees swarm they desire drones, and will build drone comb; after they have swarmed they have no desire for drones, and do not build drone comb, *unless* they have an old queen that they are intending to supersede. It is possible that, were the bees allowed a large brood-nest, they would build in it some store comb, but when given only five frames in the brood-nest no drone comb has been built for us, *unless* the queen was an old one. This season, in our apiary, about one comb in twenty-five, built by the bees, is drone comb, and in every case the queen was an old one. Here is a letter upon this subject, that of dispensing with foundation, from our old friend Dr. Whiting:

East Saginaw, Mich., Aug. 31, 1885.

W. Z. HUTCHINSON, *Dear Sir*:—I have just finished reading your article in Sept. GLEANINGS, and most heartily indorse your plan of getting comb honey from new swarms. My bees put the most honey in the sections when they have to build their own brood-combs. They do next best on foundation, and the poorest on drawn combs. If there is an empty cell to put honey in, the bees will deposit the honey taken with them when they swarm, and there it remains. If they are obliged to build comb, the queen is ready to put in the eggs as soon as the cells are deep enough, and that stops the deposit of

honey below the first eggs that are laid. You will get the most wax in the openings in your queen-excluding honey-boards in a poor season, and with weak swarms more than with strong ones.

L. C. WHITING.

When talking the matter over with Mr. R. L. Taylor, at our State Fair, he said that he had hived two or three swarms upon empty frames, and he could not see but that they did just as well as those given foundation. S—W. Z. HUTCHINSON, 70—100.

Rogersville, Mich., Sept. 24, 1885.

OUR OWN APIARY.

REPORTED BY ERNEST.

AS there is some inquiry in regard to "Our Own Apiary," and a number of the friends have requested to have this department renewed, I hope our patrons will excuse me if I make an attempt at it. There are some very obvious reasons why it should be recommenced. By virtue of our position we are supposed to have a sort of experimental station, where all the modern appliances are to be thoroughly tested, and a report of the same to be given from time to time. It is true, a report of the more important things have been given occasionally; but I feel assured our A B C scholars would be glad to know just what we are doing in our *own* apiary, that they may execute their own plans accordingly.

CARNIOLAN BEES.

I have just to-day examined that Carniolan swarm. About four-fifths of the bees are now of the new race. It seemed to me, as I looked at whole frames of the bees, that although the difference between them and the common blacks is not very

great, yet there are some decisive marks by which we may distinguish them. In the first place, they are larger than the native bees, and their white or whitish-gray rings of fuzz are quite clearly defined. In fact, they are much like the Italians, with the exception that, where we should expect the golden color, we see a deep jet black; but I do not see any blued-steel color, as some of the friends have claimed for them. As has been said, they seem very gentle, and, in point of disposition, very much like the Italians. While looking at them preparatory to closing the hive, I was forced to think they lacked good grit. You will bear in mind, that there were a few Italians still left in this hive. Well, as I stood over the swarm there were (as is apt to be the case at this time of the year) about six or eight robbers trying to enter the top of the swarm. While the few remaining Italians vigorously repelled every invasion, and stood in readiness for every robber, not one Carniolan did I see show any disposition at defense. In this respect they are like the blacks. I am aware that this is not a test case; but, let others report upon this point.

The Carniolans are said to be handsome. Well, yes; they are handsome with their light-gray rings of fuzz; but in my opinion the old standbys, Italians, with their golden-yellow bands varied with the same light-gray fuzz, are still handsomer.

THE CLARK SMOKER WITHOUT A VALVE.

One or two of the friends have written that a Clark smoker without a valve worked just as well. It occurred to me that it *might* work, though I feared that soot would collect and fill the blast-tube, since the smoke would have to enter the bellows before being blown out. I was not surprised to find that such was the case. Not only did the smoke enter the bellows, but heat and cinders, making the two pieces of board quite hot. Of course, the ultimate result would be that the leather would soon have holes burned through. Where one has only a few hives, and is not obliged to make a "vigorous smudge," a smoker of this kind might answer tolerably well for a while.

THAT BEE DISEASE WHICH HAS NO NAME.

Several days ago our apiarist called my attention to a swarm of bees that were diseased, and which the healthy bees were carrying out. These bees were tugged out, one after another, and left to die, like drones in a dearth of honey. They manifested that peculiar twitching motion; their abdomens were black and shiny, and considerably swollen from accumulated matter. They seemed very much like bees affected with dysentery. We came to the conclusion from the symptoms that it was the disease without a name, mentioned in the A B C book, page 69. On showing it to "A. I." he pronounced it the veritable disease. It is the first case that we have had since the one mentioned in the A B C, although reports seem to indicate that in some localities it is quite prevalent, especially in the last two seasons. Perhaps I should mention that the mother of these bees was not a queen of our own raising, but one from the South. She was sold Aug. 28th, and in consequence the swarm is on the road to recovery. If any of the friends received a queen from us about this time, whose bees show the symptoms mentioned above, we will make her good upon being notified.

THE BEE-TENT WITH A HOLE IN THE TOP.

A few days ago we had a slight touch of robbing, occasioned by a chaff-hive cover which was not perfectly bee-tight (it's fixed now). Well, that tent

with the hole in the top was placed over the hive, as mentioned on page 540. The result was almost astonishing. As each bee had bumped his head against the top several times, and had popped out of said hole, he seemingly went home in disgust; and, as far as we could discover, stayed there. It would seem that we ought to manufacture these tents with this opening; but I am afraid some friend, not knowing what the hole was for, would complain, saying his tent was "holy," so we will send them out as before, and the purchaser can make the hole himself. The opening in our tent is about 4 inches in diameter, right in the peak.

PREPARING FOR WINTER.

Our apiarist, for a week or so back, has been getting the bees ready for winter. All superfluous combs partly filled with honey are placed over the brood-nest. The object of this is to secure nothing but full combs of sealed stores for the bees. After the combs are emptied they are removed, and kept till next winter. Caution has to be exercised here, or the robbers, smelling the honey in the upper story, will get at the combs unless the covers are absolutely bee-tight. Doubling up has already commenced, and every colony is examined to see that it shall have sufficient stores. If the queen does not lay she is given an empty frame in the center of the brood-nest, and the colony is fed. This is to secure young bees for winter. ERNEST R. ROOT.

DOOLITTLE'S RERORT.

DO BEES GET HONEY FROM THE MAPLE, OR IS IT ONLY POLLEN?

WHEN I took an inventory of my bees on May 20, 1885, I found that I had, after sales and losses, 25 good to fair, 15 rather weak, and 10 very weak colonies, making 50 in all, left out of 80 in the fall of 1884. Still having further calls for bees, and having much extra work on hand, I again reduced my stock by sales, disposing of five of the best and five of the rather light ones, which left me but 40 to commence the season with, ten of which were so weak on June 1st that they had brood in only one and two combs. These ten weak colonies, and three of those next weakest, were set apart for queen-rearing, thus leaving but 27 to be devoted to the production of honey. The spring was quite unfavorable until the willows and hard maple blossomed, at which time we had some pleasant weather, which was improved by the bees in gathering pollen from the maple, and honey from the willow. This gave all the good colonies a nice start, but the weaker ones only held their own till after the 10th of June, at which time we again had warm weather, and all began to be prosperous.

Why I speak of pollen from the maple, and honey from the willow, as above, is that many seem to suppose that hard maple yields much honey certain years, while all of my observations show that it yields comparatively nothing but pollen. I do not say that such is the case in all localities, but I am inclined to think that it may be. We are all apt to jump at conclusions, so when we hear the merry hum of the bees in the maple-trees, and see at the same time that honey is being stored in the hive, there is nothing more natural than to suppose that the honey came from that source. But, to be sure such is the case, we need a little more proof, which, in my case, after being applied gave the credit to

the willow for the honey, and not to the maple. If any person has maple, with no willow within five miles of him, the conclusion that the honey came from maple would be better founded than when there was an abundance of both, and still the conclusion might be wrong, as the proof by killing a bee might show. When I desire to know just what a bee is getting from any plant or tree, I watch it for some length of time till it has visited a number of flowers, when I catch and kill it, after which I remove its honey-sack, which tells me at once if said bee is getting honey from the flower it is at work upon; for if the sack is empty it says no honey. Thus I find the honey-sack of bees at work on hard-maple blossoms empty, while their pollen-baskets are filled with pollen; a bee thus caught on the golden willow shows a sack full of honey, with no pollen in its baskets. Is not this better proof than the first supposition cited? These facts are of value when we are deciding what to plant for honey. But, to return to the report.

Bees got scarcely a living from raspberry; but, thanks to our farmers, a few acres of alsike clover had been sown the season previous, which, together with the little white clover along the roadside, gave the bees a plenty for brood-rearing, while some of the strongest stored a little in the sections from the same. However, but very few sections were completed—the main benefit being in helping in brood-rearing and giving a start in some of the sections, which was continued during the basswood flow.

Basswood opened July 14th, but the bees got very little from it until the 18th, at which time work began in earnest, and lasted for 12 days, which, with two days of winding up, ended the honey season for 1885; for since this the bees have got nothing except a little for brood-rearing during a few warm days about the 10th of August.

After having my honey all crated and weighed, I find the result of the season to be as follows: Comb honey, 2972 lbs.; extracted, 188 lbs., or 3160 pounds in all. This divided by 27, the number of colonies worked for honey, gives an average of 117 lbs. per colony, nearly all of which was comb honey. I have at date, 90 colonies and 30 nuclei, but I shall double down to less than 100 for winter. I am selling a little honey about home at 15 cts. for comb and 10 cts. for extracted, but I presume I shall send the most of it to be sold on commission, as those talking about buying offer very low prices. F. I. Sage & Son, of Weathersfield, Conn., have bought several crops in this (Onondaga) and Cortland Counties, at from 11 to 13 cents per lb., but I am hardly willing to sell at those figures. One thing recommends their plan of buying to bee-keepers, however, which is that they come to your railroad station, accept and weigh the honey there, and pay "spot" cash for it. Thus the bee-keeper is relieved of all worry and bother which naturally arises where honey is shipped on commission, or paid for on delivery in any of the large cities.

Brodino, N. Y., Sept. 16, 1885. G. M. DOOLITTLE.

Friend D., the point you make is a good one, that we are not sure that bees get honey from any plant or tree, simply because we see them busily at work on it, and honey is coming into the hives. It still seems to me, however, that bees do get much honey from the maples here, although I have no better reason to give, than that maple-trees

are roaring with bees, while an abundance of honey is coming in, having a strong flavor of maple syrup. There are very few willows in our vicinity, and I have never noticed bees on them, what there are, unless it be an occasional willow, such as we sometimes find in dooryards, as an ornamental plant. However, I am going to test the matter, in the way you suggest, when I see bees working on the maples again.—I am glad to know that there are large honey-buyers who make a practice of going right to the producers, and shipping it at their own expense.

RIPE EXTRACTED HONEY.

HEDDON'S PLAN TO GET IT.

As promised, I will now endeavor to outline the plan by which I produce such honey as brings a favorable testimonial from about ¾ of my customers (most of whom are bee-keepers, and good judges of honey), and complaints from none; such honey as I have just shipped you.

Before beginning a description of my plain simple method of working, let me first call your attention to the fact, that although our basswood honey stands first in brightness of color, and second to none in the comb, it is beginning to be graded as second to white clover, when extracted, by some of our dealers and consumers. The query naturally arises, "Why this difference in grading, between these two kinds of honey in the comb, and extracted?" I believe the reason to be based upon the fact, that many of us have extracted our honey before it was *dead ripe*; and where this system is practiced, basswood honey is apt to be taken out in the least ripe condition, for the reason that clover honey is usually riper in the flowers, and comes in slower, allowing the bees to evaporate it more, before the apiarist thinks he sees the necessity for emptying his combs.

I suppose nearly all readers know what is meant by "ripe" honey. We call honey "ripe" when it has that smooth, oily, and thick consistency of old comb honey that has been in the hive some considerable time. It is then free from that sharp "twang," or cutting sensation in the throat, which nearly all consumers dislike. This undoubtedly is caused by a slight development of bacteria, which are always present, we are told, in cases of fermentation. It may properly be said, that this raw, "twangy" honey, is more or less infested with these germs, or tending toward fermentation, or souring. The interior of the hive, together with the system of digesting, heating, and ventilating, by the bees, seems to be the best place yet known in which to destroy these germs, leaving the honey thick, rich, oily, or smooth; in other words, *ripe*.

I will tell you how we have worked to produce our honey, which we consider thoroughly ripe.

Our last winter's loss of about 350 colonies left us with a large number of combs to cover with bees. We had on hand and nailed up, about 600 supers the full size of our 8 L. frame hive. When our hives were well filled with brood, and the surplus season opened, we put on our honey-board, and one of these supers containing eight brood-combs. As soon as these eight combs were pretty well filled, and the bees commenced capping them at the top,

this super was raised up, and another empty one, just like it, placed under it, upon the tiering-up plan—the grandest principle connected with the production of comb or extracted honey.

Experienced bee-keepers will at once suspect the fact that the lifting of this super, and introduction of an empty one under it, considerably checked the capping of the honey it contained, while it did not materially retard the evaporation or ripening process. During the beginning of the clover and basswood bloom, at that time when the nectar is thinnest, we frequently used three of these large supers on a hive, for a short time, before we removed the upper one and extracted it. When we came to extract we found our honey thoroughly ripened; yet the combs containing it, capped over only where they were thickest, and you will remember that it is very speedy and pleasant work to uncapp combs that are capped over only where the cells are most elongated, leaving you no hollow places to reach into with the uncapping-knife.

After our honey is extracted we leave it in large tanks till it is thoroughly settled; *i. e.*, all air-bubbles, bits of comb, etc., have risen to the top, when we draw it off at the bottom into our 50 and 100 lb. kegs; bung them up tightly and put them in a cool place. This thoroughly ripened honey will not candy or granulate nearly as quickly as that which is unripe, or of less body, containing, as it does, more water. We also store a considerable quantity in 50-lb. tin cans, and also about 500 one-gallon stone crocks, which we keep till cool weather, when all honey begins to granulate; and when our customers ask for "clear honey" we set these crocks and cans in our large tank containing water, and placed upon the stove, and slowly and carefully heat it till it is again all liquefied, when we pour it into one of the tanks, give it time to settle, and while yet warm enough to flow readily, draw it into the kegs and bung it tightly, when it is ready to ship. This heating process, properly done, rather than being an injury to either color or flavor, is an additional help to perfecting the quality of honey.

It has recently been discovered, I see by GLEANINGS, that some peculiar varieties of honey that are almost poisonous when unripe, are quite the reverse when thoroughly ripened. I feel quite sure that all honey is much more wholesome when completely ripened; and it is only such honey that creates an increasing demand.

Father Langstroth tells us that basswood honey contains most of the nutritious oils which make it pre-eminently adapted to persons of weak lungs or consumptive tendencies. He tells us how Mrs. L. was saved from premature death by consumption, by way of a systematized basswood honey diet. He has just ordered a 100-lb. keg from us.

I claim nothing original or new in the above, except, perhaps, a trifle by way of detail and manipulation. I gave it to more thoroughly impress upon the minds of our bee-keepers the importance of the system which is so ably formulated in friend Dant's little pamphlet on the subject. In ordinary cases I should, like friend D., use shallower supers. Last spring I had but 120 colonies left; but I had faith. I paid out \$700 for 124 more colonies, in all sorts of nearly worthless hives. By modern transferring they are now in our eight-frame L. hives, numbering 450, and though the unprecedentedly cold weather utterly destroyed our August crop, we got at least ten tons from clover and basswood;

and now the returning warmth is filling up our brood-chambers with goldenrod and aster honey. Thus our faith and pluck have been rewarded.

Dowagiac, Mich.

JAMES HEDDON.

Friend H., I entirely agree with what you say about ripe honey, although there are some of the friends, and, if I mistake not, Prof. Cook among the number, who claim that basswood honey is fit for the market if extracted before being sealed up at all, without the ripening process. Another advantage of your plan of getting the honey thoroughly ripened is, that you can secure pretty nearly if not quite the entire crop before you go at the extracting business at all. Of course, you may have to do your extracting at a time when honey has ceased to be gathered, and at such a time you will have to take very great precautions against robbers; but for all that, I think it is the better way. The nicest and best-ripened honey that I remember to have ever tasted was left on the hives until so late in the fall we were obliged to remove the combs from the hives by moonlight, to avoid disturbance from the robbers. We managed it easily, taking combs out and putting them back almost without a bee taking wing. The honey would hardly be recognized as basswood honey, the flavor was so ripe and complete, if that is the proper word.

A CAVE FOR WINTERING BEES; HOW TO MAKE ONE.

IS IT ADVISABLE TO TRY TO CONSTRUCT CAVES WHERE THEY ARE NOT TO BE FOUND NATURALLY?

SEVERAL have recommended a cave to winter bees in. Will not you or some one who has built one tell us just how it is done, telling especially how the roof is made? Our bees are storing honey very fast now from fall flowers.

Muscatine, Ia., Sept. 21, 1885.

J. T. GODDARD.

Friend G., I gave a very full description of how to build a cave, in the December No. of GLEANINGS for 1874—just eleven years ago, you see. Since that time a good many have used such caves, and some prefer them—among them, if I am not mistaken, Mr. L. C. Root, author of "Quinby's New Bee-Keeping." These caves are mostly used, however, where long cold winters are the rule. In our variable climate we have mostly discarded them. A cave for wintering can be built easiest in a side hill, for then there is no trouble about drainage. The room for the bees should be covered with a sufficient quantity of dirt to prevent frost from getting through; and over this dirt I would have a shingle roof. If you don't, heavy storms will be quite apt to get through and make it wet inside. A shingle roof will keep the dirt dry, which makes it a better non-conductor of frost. You will have to have a pretty strong framework to support this body of dirt; and another trouble comes in here, for when this framework begins to decay there is danger of your cave coming down on the bees, and possibly on yourself. Arching it over with brick or stone would do, but this would be much more expensive than having a building overhead—or, in other words, using an ordi-

mary cellar. If you are in a locality where a cave can be cut in a tolerably soft rock, you are, of course, all right; and in some cases I presume natural caves would answer an excellent purpose.

BEEES BY THE POUND, FROM LOUISIANA TO NEW YORK.

HOW IT TURNED OUT.

IN the fall of 1884 I had a genuine Florida fever. The fever was induced by a young gentleman who was spending a few months' vacation at a summer resort a few miles from me, and who spends a greater portion of the year in Florida attending his orange-groves. This gentleman became interested in my apiary, and caught the bee fever, and offered me a very good salary to spend a few months with him, and set him up in the bee-business by establishing an apiary in his Florida home; but circumstances compelled me to stay in my Northern home. It was my plan, had I been at liberty to accept his offer, to take some of my best Italian bees south and rear queens and bees, and ship north by the pound early in the spring.

Having an apiary of over 50 swarms in an adjoining town, and losing quite a number of colonies during the winter, I thought it a good chance to try my Florida scheme. But instead of myself sitting under the orange-trees and receiving money from the north for bees, the experiment was against myself. Another man under the orange-trees must ship me the bees to stock up my apiary.

In March I commenced correspondence with parties in Florida; but our orange-grove bee-men did not have bees to sell by the pound, so I turned my affections and attentions to the man on the sugar plantations of Louisiana, and found a man who was willing to send bees by the pound. My trade was for 100 lbs. of bees and a number of queens, to be delivered the first week in May; but owing to cold weather in the South I did not receive my first shipment until the 25th of May; 30 lbs. were sent in this lot, put up in 2-lb. packages, and upon arrival I found fully one-half of the bees dead. In two cages every bee was dead; in several others, from one-half to two-thirds were dead, and only in two or three cages were the bees in good condition. In one cage there were less than a dozen dead bees.

This first shipment had quite an effect upon my Florida fever. It did not run so high. I wrote my shipper the condition of the bees upon arrival. The cages were $5\frac{1}{4} \times 5\frac{1}{4}$, and $13\frac{1}{2}$ inches in length. The candy was placed in two sections, flat in the bottom of the cages. Just as soon as a bee died it fell into the candy and stuck there; and as soon as enough died to cover the candy, the rest had to "root, hog, or die;" and as they didn't know how to "root," they died.

The next lot of 30 lbs. was put up in 5-lb. lots, in 4-frame-nuclei boxes, with combs for them to cluster and feel at home upon. I was assured that bees so shipped had been put through long distances, and had arrived in fine condition. My Florida fever began to rage again, and orange-groves appeared in my night visions.

On the 9th of June this lot arrived, and my Florida fever received such a shock that it has not returned since. The bees were in a worse condition than the first lot, and showed signs of very rough handling.

The candy was in the bottom, like the first lot; and in the cages where the bees were all dead, but a small portion had been eaten; and though the combs were wired L. frames, they were melted down; and comb, bees, and candy, were in a filthy, sticky mass in the bottom. Honey was oozing out from all sides of the cage. Smothering was very evidently the cause of death, and there were but a few pounds of live bees left in the whole lot. The queens to go with these pounds were sent by mail, and nearly all of these arrived in good condition.

The nuclei formed from these weary, dismayed, forlorn surviving travelers brightened up in a few days, and those that arrived upon the 25th of May were put to their level best; and when our bountiful harvest from basswood came they stored a paying amount of honey; and it is safe to say, had my 100 lbs. come to hand by the middle of May in the two-pound lots agreed upon, and in good condition, they would have given me fully 5000 lbs. of basswood honey. Of course, I could not ask the shipper to pay for this prospective honey. He sent me several extra queens, and promises to pay all express charges on all that are dead upon any lots I may order in the future. Our trade was amicably settled, but I do not feel like hearing the subject of experiments, especially unsuccessful ones. My actual damages would read something like this:

Loss of 5000 lbs. of honey @ 8c.	\$ 400
Going to R. R. station 6 miles, several journeys, 20	
Distress of mind at not finding bees there, -	1000
Destruction of my Florida scheme, -	5000
Total, -	\$6420

Now, the most of people would go nearly crazy over such a loss as this; but I have learned to take things cool, and to be happy under all circumstances. I have a good yield of honey, and will make all I can out of it. J. H. MARTIN.

Later.—My Florida friend of last season is here again. I have just had a pleasant visit with him. He started with 10 swarms, increased to 38, and obtained 300 lbs. of extracted honey; sold for 25 cents per lb. By transferring out of season he got his bees to robbing, got stung, and got everybody else stung around him. My Florida fever begins to affect me just a little—somewhat intermittent.

Hartford, N. Y., Sept. 25, 1885.

J. H. M.

Right glad we are to hear the report, even if it is a failure, friend M. Now, had you consulted your A B C book you would have noticed that I emphatically insist that bees shall have ventilation through both top and bottom of the package, where they are to be sent long distances. I have experimented in this matter to my heart's content, and I thought I made it so plain in the A B C book that no one, after reading my directions for moving bees, would have made such a mistake. I can take a powerful colony in the hottest day in July, and by covering both top and bottom of the hive with wire cloth, so that the bees can send a stream of air right through, they can be shipped safely almost anywhere. The perspiration and hot air rise right through the upper wire cloth, providing a stream of cold air can come right in from the bottom. Long ago we also gave warning that the food, whether candy, honey, or whatever it may be, should by no means be on the bottom, for dead bees to fall into; besides, the bottom is all wanted for ventilation, as I just told you, I

do not think there is a better plan for fixing the candy in the cage than the one we illustrate and describe in the A B C book, and this cage has gone longer distances than from here to Florida, with perfect safety. There are, however, losses in shipping bees occasionally, which we have never yet been able to understand; but I should say that nine-tenths of your bees ought to have gone through in good order. Now, friend M., do not make out any more bills of \$6000 and over, for loss of "castles" built entirely in the air; but let you and your friend go to work next season testing a pound or two at a time, until you are all right. In fact, you ought to do that in any business. Send three pounds first; if they go all right, then try ten pounds; next twenty-five. If all these go safely, you are ready to try fifty or perhaps a hundred, if you choose.—To be sure, the orange-men in Florida, and sugar-men too, for that matter, ought to help us, and we ought to help them too. In the same way, we ought to help the express companies, and they ought to help us, and will, if we go about it in the right spirit. We are a band of brothers all round, and can surely work together. Don't you remember who it was that said, away back, years ago, "We be brethren"?

OBSERVATIONS UPON DRONES.

BY L. L. LANGSTROTH.

BEVAN says that the drone hatches on the 24th or 25th day after the egg is laid. I know of nothing more definite on this point.

To get more precisely the facts, on the 16th day of last July, a drone-comb was put, at 7 A. M., centrally in a strong colony, which had been fed for several days, as the drones were being expelled from many hives. At 9 A. M. the queen was found on that comb, having laid three eggs. She had just begun laying. At 9 A. M., on July 17, it was removed to a strong colony, without queen, eggs, or larvæ. On July 27, many cells were capped, and on July 23, at 2 P. M., some 200 were capped, many eggs having, for some cause, disappeared. On Aug. 9, none had hatched. On Aug. 10, examinations were made every hour. At 5:30 P. M. none had crawled out; at 6:30 two had hatched, and a third was hatching. If these drones came from the first eggs laid, they took about 25 days and 8½ hours to develop.

At 6 A. M., on Aug. 11, many more had hatched, and at 6 A. M., on Aug. 12, all but 17 had hatched. At 6:30 P. M. all but two had hatched, and at 6:30 A. M. of Aug. 13, the last one was found with the cap off, trying to crawl out; it was strong and perfect. Now, if the egg producing this drone was laid just before the comb was removed, then it took nearly 27 days to mature.

During the whole time of these observations, the weather was of the most favorable kind—the thermometer ranging nearly every day above 80° Fahr., and being only once as low as 62°. The colony was kept in good heart by daily feeding, and I can think of nothing which could have retarded in the least the development of these drones, unless possibly the fact that from so many of the eggs having disappeared they were not as compact in the comb as they otherwise would have been. In this observa-

tion, although there could not possibly have been more than 24 hours' difference between the laying of the first and the last egg, there was about two days and a half between the hatching of the first and the last drone.

It is quite interesting to watch the different actions of just hatched workers and drones. The worker, true to her name and office, begins to crawl over the combs as if to feel her legs, stops occasionally to clean herself up, and before long helps herself to honey from an open cell. The drone, on the contrary, is a born dependent. The first act is to touch the nearest worker he can reach with his flexible antennæ, and, begging to be fed, he is at once supplied with honey disgorged from the proboscis of his attentive nurse. And so he goes on all his life, seeming to prefer to be fed, although perfectly able, if needs be, to help himself.

A very bad name has always been given the drone. Virgil has his fling at him, stigmatizing him as having no proper office in the economy of the hive—seeking only to devour the stores which he had no share in collecting. I wonder what the poet thought he was made for! or as he says that the bees collected their young from the flowers, being too chaste to breed them, what motive he could have thought they had to gather in such useless consumers! And yet without any special pleading, how much can be said in his defense! It is only too evident that his proboscis is too short to suck honey from the flowers; that his legs have no pollen-baskets; and that he can secrete no wax. Great as his bulk is, he has no sting, and can do nothing for the defense of the commonwealth; but then, without him that commonwealth could have no existence. The sole object of his life seems to be, at the proper time, to fertilize the young queen—and this he is always ready to do. Now, why should we blame any creature which fulfills the special object of its creation? And yet I fear me, in spite of all that can so justly be said in his favor, our poor drone will always be cited as an incorrigibly idle reprobate, who meets with only his just deserts when, after a life of pleasure, he is killed without mercy by the industrious workers. He will always be known as Shakespeare's "lazy, yawning drone." Oxford, O.

REV. L. L. LANGSTROTH.

CONVENTION NOTICES.

The Central Illinois Bee-Keepers' Association meets at Jacksonville, the last Wednesday and Thursday in October. CHAS. DADANT.

The Central Michigan Bee-Keepers' Association will meet in the Pioneers' Room, in the State Capitol, at Lansing, Mich., at 9 A. M., Nov. 12, 1885. Every one who has bees, or is interested in bee culture, is invited to attend. E. N. WOOD, Sec.

The Progressive Bee-Keepers' Association of Western Illinois will meet in Macomb, Ill., on Thursday, Oct. 15, 1885. Let everybody come and have a good time. Good speakers are expected.

J. G. NORTON, Sec.

The Wabash County Bee-Keepers' Convention will meet in G. A. R. Hall, North Manchester, Ind., Oct. 15, 1885. All bee-keepers are earnestly requested to be present. J. J. MARTIN, Sec.

The Western Bee-Keepers' Association will hold its fourth annual meeting in Independence, Mo., Thursday and Friday, Oct. 15 and 16, 1885. The association will endeavor to make this the most interesting meeting yet held, and will spare no pains within its means to make it in every sense valuable to all. Several of our most prominent bee-keepers have signified their intention to be present.

C. M. CRANDALL.

REPORT FROM W. S. HART.

ANOTHER VERY FAIR REPORT, AT LEAST, FROM FLORIDA.

EDITOR GLEANINGS:—According to custom I will now make a report of the season's work in my apiary, up to date. Last season closed with 117 colonies; started this season with the same, all in good condition; increased to 148, and have taken, as nearly as I can tell at present, 11,900 lbs. of honey, of which 250 was comb in pound sections, and the rest extracted. This, as you will see, gives me about 100 lbs. to the colony, spring count, which is about thirty pounds below any previous average made since I took charge of my bees, eight years ago; and although a small report, still I believe it is a "paying" one.

The season proved an anomaly. Almost every thing in the way of bloom has been from two to six weeks later than usual; and when it did come it was quickly over. Saw-palmetto produced almost no honey, and gullberry very little. The bright amber honey of May and the first half of June, that usually constitutes our first surplus for shipping, was entirely wanting this season. What early honey we did get is considerably darker, and has a stronger flavor than usual. Mangrove honey came in very late, and, like the cabbage-palmetto, which yielded freely, was in bloom but a short time. The mangrove, however, was blooming freely some days before the bees fairly went to work upon it. Why this was so is a mystery to me.

The mangrove and cabbage-palmetto honey is of as fine a quality as need be. I believe it is better than ever before, and partly, perhaps, on account of my new method of curing it in a sun-evaporator under glass instead of as formerly in large tanks, which were run out into the sunlight when full. I may speak more particularly of my new honey-house and fixtures at another time.

The honey crop for the State will, so far as I can learn, run short of an average one in about the same proportion as my own, or, say, one-half a crop; but that fact seems not to have discouraged any of our apiarists, so you may look out for a big crop from our State next year.

A larger proportion of comb honey is being raised than formerly; and surely, if it can be placed in the market without breakage, it will bring the "top price." Now for a few words on various subjects.

WAX-EXTRACTORS.

I have now had in use for the past two years the sun-extractor described by Mr. O. O. Poppleton in back numbers of GLEANINGS, and so far I have seen or read of no better plan for rendering wax. Its good points are, 1st, Its cost is very little; 2d, Almost any one can make one who has a frame of sash; 3d, It cleans the wax perfectly, and brings it out bright, clean, and handsome, the first time melting, and no mussing about it; 4th, By having two pans for it, one can always be at hand ready for all odd scraps, while the other is in the extractor.

Well, perhaps I had better not tell the rest now, but will just say, *try one*.

YELLOW JESSAMINE.

This grows plentifully throughout our hummock and scrub lands, and considerable of our winter honey comes from it. Both myself and many of my neighbors have eaten freely of it, both after it had been capped over and also before, when it had just been gathered, and I have never known any ill

effects, nor have I ever found that it injured my bees in any way; yet Dr. J. P. H. Brown tells me that in Georgia they lose a great many young bees by it. Evidently, locality makes a great difference, or else there is some other plant that causes the trouble. The honey is never taken from the hives to be shipped, as all of it is needed for brood-raising.

CLIPPING QUEENS' WINGS.

Let me say, that I vote for clipping the queen's wings *every time*. I have done it for years, and Mr. Mitchell, who has had full charge of my apiary for the past two years, does the same. It would take considerable money to hire us to give up the practice. It certainly has been of great profit to me, and I think the loss of one queen is all there is to be charged to the practice in all this time. Some of my neighbors who do not practice it are losing more or less swarms that go to the woods every year, while we have not lost a colony from any cause for about three years. I think this last fact may be a good argument also to support a number of statements and claims that I have made in past writings. It also speaks well for Harrie's management. No artificial swarming for us, if we are working for extracted honey.

I make it my business, and I consider it the business of every officer of any bee-keepers' society to watch over the newspapers of their respective States; and if any thing is published that is damaging to our industry in any way, at once reply to it; or, if it is false, correct it by an article showing its fallacy. Editors are sometimes misled, but seldom or never publish any thing of the kind with a deliberate intention of injuring any honest industry, and, I believe, are always glad to receive and publish such matter as is sent to them by any well-known and respected bee-keeper. Such a letter may be made not only to counteract the influence of the libelous article, but may give a few hints and facts that will help create a "hankering" for some of that genuine "bees' honey." Of course, I would have all bee-papers ready to refute any misstatements in the future as in the past; but bee-papers go mostly to bee men, who know honey when they examine it, while the newspapers carry the correction right where the other article went, and it thereby reaches the parties most likely to be influenced.

Hawks Park, Fla., Aug. 31, 1885. W. S. HART.

APIS DORSATA.

A FEW MORE BRIEF WORDS FROM FRIEND BUNKER.

FRIEND ROOT:—In reply to questions in GLEANINGS of May 15th I will say, the comb for brood is not cylindrical, but flat. On the right of this comb, however, and attached to it—yes, forming a part of the brood-comb—is this cylindrical comb. Though built on the same limb as the brood-comb, yet the store-cells are so elongated in the middle portions of the comb as to give the general form of the comb a spherical shape. Perhaps this is the better term to use in describing the honey-comb of this bee.

I could discover no drones or drone-cells in the stock I captured. The brood-cells were all the same shape and size—at least so far as I could discover. The store-cells, however, varied much in depth, according to measurements given. No brood is ever raised in the store-cells. These are exclusively for honey, and so I have called them the honey-comb

in my description. The question of drones and queens must yet be answered. In the *Apis florea*, the queen and drones are much larger than the worker-bee, comparatively, than is the case in the *A. Indica*. The drones are of a beautiful slate color. I am inclined to think that this bee has more than one queen to each stock, but am not at all certain. As I remarked in a former letter, the *Apis florea* resembles the *A. dorsata* in many ways.

A. BUNKER.

Toungoo, British Burmah, July 3, 1885.

Many thanks, friend Bunker, for the additional information you give us. It seems to be a little hard for us to get hold of the idea of these cylindrical honey-combs. Could you not make some kind of a drawing of it when you are writing?

In addition to the above facts, friend Bunker sends the following in a private letter; and this private letter is of so much interest to all who are interested in *Apis dorsata*, that I am sure friend Bunker will excuse us for making at least a part of it public. It is as follows:

You have very kindly offered to help bear the outlay in experimenting with *A. dorsata*. I should not hesitate to accept your kind offer, if I were sure I could get any good for you and the public out of the experiments; for the fact is, we missionaries, with our divided families, part here and part in America, find it hard to make the ends meet. We can not use our allowance for support to the best advantage. No complaint, however, you understand.

Doubtless if I had ample funds I could drive the experiments with *A. dorsata* much faster. I have to hire men to climb the trees and transport the bees 20 miles, and carpenters to make the hives, which is expensive. The last hive cost me 12 rupees (a rupee, or, rather, 25 rupees, equal \$1.00). I paid 8 rupees for men to climb for the bees and bring them into town. Of course, I now have the hive and I shall not be obliged to get another very soon.

By the way, every hive must be thoroughly protected from ants, by surrounding the base with water or oil. I am exceedingly interested in these bee experiments, and am leaving nothing undone by which to post myself on all the ways of bees, and I shall do my best to give *A. dorsata* a fair test.

In closing, my dear brother, allow me to bid you "God speed in your good work." You have been liberal to this missionary, for which you are held in grateful remembrance.

I hope to send to you soon an order for tin pails for honey. My helper in the study of bees, a very intelligent Karen, wants to try an experiment in marketing the 40 bbls. of honey from the *A. dorsata* of his village. He thinks that if the pails are ant proof he can put up the honey with a neat label, and ship to the Rangoon market, now the railroad is open, and make a good profit. I mention this as a fact of progress; so, look out for an order, say when the season slacks with you, as I suspect then will be best time to buy.

A. BUNKER.

Friend B., I believe the best way of expressing my hearty sympathy with your enterprise for putting the *Apis dorsata* honey up in tin pails for market would be to tell you that I have placed to your credit \$25.00, to be used for tin pails, or in any other way you may suggest. If, as you suggest, it should not amount to any thing. I will risk

so much in the experiment. I know how it is with missionaries, and I have always had reason to believe that they as a rule make pretty careful investments.

CLIPPED QUEENS.

FOR AND AGAINST.

IN reply to your questions on page 455, arising from comments on Mr. Doolittle's article on clipping queens, I will say, from my observation and experience, that it takes a natural swarm but a very few minutes to ascertain whether or not the queen is with them in the air, and every thing in order for further proceeding. If the queen be not clipped, swarms will issue quickly, and at once cluster; while with a clipped queen they are longer leaving the hive, and so much time is usually spent before clustering (which they often do, and sometimes do not), that many bees return to the old stand. Even if the queen be found and caged immediately, and hung upon something where a few show disposition to cluster, as Mr. Doolittle mentions, as a rule it does not warrant their clustering there. To suspend the cage among the bees in the air by means of a long stick, and "fly" it around with them often induces them to cluster quickly; but even this is not usually satisfactory. If they do not happen to fly all over your yard and your neighbor's yard too, as swarms with clipped queens often do, they do take up a good deal of time. This may not matter, if one has a few colonies; but when a dozen swarms are likely to come out within an hour, some quicker method of disposing of them works better for me. I have occasionally had half a dozen swarms issue, one after the other, with an average difference of not more than three minutes, with queens having good sound wings, and I alone find no difficulty in getting each swarm hived by itself with its own queen, as it should be. Imagine the "muss" I should have had, if those queens had been clipped. Some would say the bees would return to their respective hives. This they *might* do, but more than likely some one or two out of half a dozen would get the most of them. I believe more clipped queens are lost at swarming than are swarms by absconding. If they are not lost outright, they are quite often balled or superseded shortly after.

Now, doesn't it depend upon the comparative value of queens and bees, together with one's ability to manage successfully at all times, whether or not we can advise clipping? As for me, in my home apiary, managed expressly for comb honey, I allow a certain amount of swarming, and prefer the queens *not clipped*; while if I were running an apiary away from home, equally strong, for comb honey, and not in charge of an excellent hand, I would allow no natural swarming, and have all queens *clipped*.

C. W. KING.

Kibbics, Mich.

Friend K., I have had queens with clipped wings act just about as you describe, a good many times, and that is one reason why I have several times before made the statement that it seemed to us we had more bother where the queens were clipped than where they were unclipped. I agree with you, that it is quite likely circumstances may greatly alter cases in such matters,

SOMETHING ABOUT BEES AND BEEHIVES.

SOME INTERESTING FACTS AND REMINISCENCES
FROM ONE OF OUR VETERAN READERS.

ALTHOUGH not recognized among the more successful bee culturists of the country, save and except father Langstroth, I am, perhaps, the oldest. I have been caring for and handling bees for at least fifty-two years. Before I was out of my teens I had invented various "contraptions" for the more ready and careful handling of bees, none of which are now worthy of mention. I knew very little, however, of what others had been doing with and for the "little busy bee." I had read no books on the subject—knew of none—and had only my own and my father's experience as my guide. It is strange that it should be so; but it so happens in this world that one man's experience amounts to very little. Evolution (development) is indeed the order of creation. I knew what a drone was, and *his* uses. I knew what a queen was, and the part *she* played in the economy of the bee-hive. Then, however, she was commonly known as the "king-bee." But I now wonder that any one could have been so ignorant, and yet be a comparatively successful bee culturist. About this time a little A B C book on the honey-bee, fell into my hands, which was indeed a revelation to me. I arose from the perusal of this little volume, the title of which I have forgotten, delighted with what I had learned, but amazed that such knowledge should have been kept from me so long. This book confirmed all I had ever learned, and told me of wonders far beyond any thing I had ever imagined as true of the honey-bee. And it was just at this point that father Langstroth came upon the scene, and told us of the wonders he and others had discovered in this line. He came with book and hive, and said: "I am going to tell you of mysteries more wonderful than any tale ever told by Arabian Nights; I am going to tell you of the mysteries of the honey-bee." To say that I read his book with profit, is tame and flat; I read it with the greatest pleasure, delighted with the knowledge it afforded, and thankful that my eyes had been opened to the truth as it is. I at once adopted the Langstroth hive, and for more than twelve years I used no other. I followed it through all its different forms, and imitated it in all its different styles. However, after the war, having got rid of all my old bees and hives, by a change of location from the Valley of Virginia to tidewater near Richmond, I began to tinker with other styles and make of hives; and the consequence is, I have now in use about 17 different make of hives—just 16 more than I ought to have. I have the four different styles of the late M. Quimby. I have the Simplicity, the Gallup, the Triumph (in two different patterns), the American (in two different styles), the Maddox (in two different forms), and three other hives, the paternity of which is in obscurity. One of these has 10 combs 20×17 inches. One has 12 combs, 12×14 in., and one 10 combs, 11×13 inches. In addition, I have three kinds of my own get-up. So you will see I have had quite an experience with hives. Pope said the best government was the one best administered. I might say the same of bee-hives—the best one is the one that is best handled; and yet there is a difference, under the same treatment, worthy of consideration. Of course, I think

mine better than any other. I aimed to have it free from the objectionable features I had discovered in nearly all the others I have named. Without intending it, the inside measurements of my hive are nearly precisely those of the Langstroth hive. But I run my frames—13 in number—crosswise to the opening. There is no special advantage in this, except in the facility of handling them. I work entirely from the rear of the hive, and the bees in front scarcely know what is going on till the honey is all extracted.

I begin the honey season by placing all the brood-combs in front, and the hive is frequently overflowing with bees before any brood is found beyond the seventh comb, and the six rear combs will have in them nearly all the honey that is in the hive. This is a consideration in extracting, if in nothing else. I am not bragging on my hive. I have no special vanity that way, but only write to say what I do and why I do it. G. K. GILMER.

Marion Hill, Va., Sept. 9, 1885.

REFINING HONEY WITH ANIMAL CHARCOAL.

CAN IT BE DONE IN THE WAY WHITE SUGAR IS REFINED?

UPON seeing inquiries in GLEANINGS regarding the possibility of bleaching dark honey by filtering it through bone-black as syrups are bleached before crystallization takes place,

I would say that, as I am considerably conversant with the sugar business, will reply that, as the charcoal filters which are used in our refineries are so very expensive, it would be entirely impracticable for any one in a small way to ever refine his fall honey, even if it could be done. I think, from what I know of the manufacture of sugar from our northern sugar-cane juices, and of the nature of their juices as compared with honey, that it would be very doubtful if any such process would prove successful. In making sugar we treat the expressed juice, first to a lime bath, at a temperature a little less than the boiling heat, about 18° Fahr.; then when it is reduced to a semi-syrup it is run in on the top of the bone coal, which consists of burnt animal bone, which is ground nearly as fine as coarse blasting powder. These filters are about 12 in number, generally, and are some 3 ft. in diameter by 12 or 18 ft. high, made of boiler iron riveted together as engine boilers are, in the same way. This saccharine liquid slowly leaches through the filters, after which it is pumped up into the vacuum pan, where it is reduced to the proper density for granulation, and it is then discharged. If honey were to be put through the charcoal filter it would first have to be reduced in density to about the consistency which it comes in from the field, and then be evaporated afterward, so as to give it to again its proper density.

While going through the charcoal, it loses much of its coloring matter; and while there it casts off some of its characteristic flavor. It also takes on a borrowed flavor from the bone black, which, to many, is not pleasant. Now, were honey to be subjected to even the leaching process, I think it would afterward hardly be recognized as *honey* again.

The crude sugars of commerce are not bleached in this way. The sugars resulting from this process make a common brown sugar. The brown, or

crude sugars, are put in molds, and clay is placed on the top of each mold, and water is filtered down through the clay and the sugar, which bleaches it white.

Our bees are jubilant over the enormous white-clover honey harvest which they are garnering up rapidly. They built up surprisingly on the fruit-bloom.

C. F. MILLER.

Dundas, Minn.

Thanks, friend M. It had already occurred to me that the honey would have to be reduced with water before it could go through this filter of animal charcoal. Then, of course, we should be obliged to thicken it again by boiling or evaporating; and unless we have expensive apparatus for the purpose, I am afraid we should injure the color and flavor of the honey more than it would be benefited. At present it does not seem as if the plan were very practicable.

CAGING QUEEN-CELLS.

SOME DIFFICULTIES ATTENDING IT.

WE are having a rather poor honey season. We got no honey from clover, to speak of. There was plenty of bloom, but too much rain; and now we are in a great basswood flow, but poor weather for the little fellows to work. One day it was so cold they hardly left the hive, although the day before they had just been rolling in honey; then we have so much high wind here in the prairie, and now it has been raining the most of the time for three days and nights. I have increased from 6 to 18; have sold several queens, and the most of my hives are very strong and active, but they don't take possession of the supers very readily. I put starters in all but part of one frame. I put in small pieces of comb, and those they went right into the same day.

I lost nearly all of the first lot of queens that I had hatch out. I was working away from home, and could see them only nights and mornings, so you know what happened. The first that hatched destroyed the rest, so I fixed some little cages and put the cells in them, and hung a frame full of these in a hive. I have had good success in this way. One cell got badly dented; and when it hatched the queen had frizzled "bangs," or her wings were frizzled or curled up so she could not fly. We tried to straighten them, but could not, and to-day I find another with one wing curled up. What can be the cause? and will they ever get so as to fly?

I saw an article in a book called "100,000 Facts," by one Shafer, in regard to fertilizing queens in confinement, telling just how to do it. I have fixed a cage, and am going to try it. Now, is this a fact or a fancy? If it has been done as long as he says, why haven't we known it before?

Sac City, Iowa, July 22, 1885. JOHN BARLOW.

Friend B., one great reason why we gave up caging queen-cells is, that so many of the queens would be hatched with imperfect legs or wings, especially when we began to have cool nights. The animal heat of a colony of bees is not sufficient for the purpose, only in July and perhaps the month of August. Even then we occasionally have cool nights that produce such results as you mention.—Fertilizing queens in confinement is an ex-

ploded myth, as you will see by the A B C book. It is true, however, that every once in about so often somebody comes up and thinks he has made it a success; but it is usually soon dropped again. I would not advise anybody to waste time with it.

INTRODUCING VIRGIN QUEENS.

SOME VALUABLE FACTS GLEANED FROM EXPERIENCE.

I MAKE a common practice of letting virgin queens run in at the entrance, as soon as possible after a colony has sent out a first swarm. As a large part of the bees left in the old hive are young bees, the queen is hardly noticed, and, true to her instinct, she destroys the queen-cells, preventing all after-swarming. I also remove laying queens and introduce virgin queens at once, with good success, never having lost more than a small per cent of those introduced in this way. My experience has been, that the action of the queen has a good deal to do with safe introduction. If they are strong, and able to stand up for their rights, they are less liable to be killed than weak ones that are just able to crawl.

WINTERING.

We have experimented pretty thoroughly, and have had the best success packed in chaff on summer stands, with good well-ripened honey for stores. Pollen they will not eat, if they have plenty of other stores. When they get out of other stores they will eat pollen rather than starve.

THE FOUNTAIN PUMP.

With one of these we control the clustering of swarms. If they commence clustering on high trees, out of reach, by directing a stream of water on the limb they will leave it and cluster on a lower limb.

ALSIKE CLOVER.

I believe this to be one of the best paying plants for artificial pasturage. We have about 20 acres, and with us it has never failed to yield a fair amount of honey. This season white clover was almost an entire failure, and nearly all of our white honey was from alsike. It is equal in every respect to the best white-clover honey. Aside from the honey obtained from it, it pays well to raise as a hay crop.

BUCKWHEAT.

Buckwheat also pays well in this locality. It seldom fails to give something, and some seasons we get immense yields of honey from it. The best variety which has come under my notice is the "little silverhull." This is far ahead of the old "silverhull," both for honey and grain.

SUMAC.

We have had our first experience with this, this season. It lasted about a week. The strongest colonies stored whole crates (42 lbs.) from this source alone. The honey is darker than clover, but when well ripened it is nearly as good, and is selling at the same price in our markets.

6—O. G. RUSSELL, 24—38.

Afton, N. Y., Sept. 7, 1885.

Friend R., I should agree with you in almost all you say; but this is the first time I ever heard of more than one kind of silverhull buckwheat. Where did the seed come from, and has it been advertised under the name you give it? Alsike clover, I believe,

is one of the few honey-plants that it is safe to go into, and I should think that 20 acres might go a good way toward giving a profitable crop of honey, with the number of colonies you have. When we get that book on buckwheat, and the other on raspberries, we shall want a book on alsike clover.

AN IMPROVEMENT IN HAND FORCE-PUMPS.

THE JOHNSTON PUMP.

THE Smith pump that we have been selling for several years past gives wonderful results, and costs only a small amount of money; but I have always found it hard work to use it, because the power must all be applied directly to the piston-rod, which in my hands wiggles about in an unpleasant way when I am trying to throw water a great distance. It also throws water only while you are forcing the piston down. While in New Orleans, in looking over the "wilderness" of pumps I came across the little pump shown below, and, as a matter of course, I took hold of the handle to see how it worked compared with our own Smith pump.



THE NEW JOHNSTON PUMP.

You will notice that it has a handle like ordinary cistern-pumps; and while this handle guides the plunger, it also gives us a lever purchase, which always seems to me to be quite an advantage. Still further, it throws a continuous jet, or stream, and this stream can be guided in any direction you wish, by simply turning the rubber hose. I was delighted with it, and so was Ernest. I think the agent sold these pumps at \$2.00 or \$2.50. I told him that I had a large trade in our dollar pump, and that if I purchased I must get them so I could sell them for an even dollar. He thought the price was wonderfully

small for his pump; but when I told him that I would give him so much money for a very large number of pumps, he finally accepted my offer, providing I would introduce them far and wide. The drawing explains the whole matter, although I might, perhaps, add that there is an air-chamber in the shape of an extra barrel surrounding the tube that carries the jet (the one to which the handle is attached), and this air-chamber makes the jet continuous. The stream it throws is small, but you can easily make it larger by reaming out the orifice with an awl or pointed instrument. The pump is nicely gotten up, and works like a charm. The prices, both wholesale and retail, will be the same as mentioned in our price list: namely, 2 for \$1.75; 3 for \$2.25; or a case of 10 for \$3.00. If wanted by mail, the postage will be 60 cts. each.

MRS. HARRISON TALKS TO US ABOUT CONVENTIONS.

AND ESPECIALLY OF THE CONVENTION OVER THE WATER, WHERE FRANK BENTON RESIDES.

I WAS laid aside lately for repairs, and while indisposed there was nothing that I enjoyed more than looking at the "migratory shadows" of the members of the New Orleans and Syrian conventions. While looking at the former, it brought many pleasant recollections to mind, as I scanned familiar faces which had gathered there from the different sections of the continent. It was a joyous time, and one long to be remembered.

The "shadows" of the Syrian convention are all strange, yet peculiarly interesting, from the fact that eight different languages are represented by the eleven composing the group. The peasant's daughter, according to the custom of the country, allows us to see but a small part of her face, and as we gaze upon her we fervently hope that her labors for bee-keepers may be remunerative, and be the means of elevating her mentally and socially.

I pity the poor bees that have to live in jugs and cylinders. I don't believe the bees of our country would stay in them; they would desert, and I'm thankful that Mr. Benton is introducing a comfortable hive into their country. The frame may be all right, but it has a wonderfully long name. I've guessed, and I've guessed, and guessed again, how it is held in place, put on my specs, and peered down into the hive to discover something, but failed. Mr. Root, don't you think the ends of the hive have tin or zinc, like this ~~52525252~~? And the hive is reversed by turning it over, is it not?

Peoria, Ill.

MRS. L. HARRISON.

I am as much at a loss as yourself, my good friend, in determining how friend Benton holds those frames, all alike all around, just like a slate-frame. At the Ohio State Fair our old friend Benedict had some hives with similar frames, and they were held by bent wires like those you mention. But the strangest part of it all was, that although friend B. has hives, 30 or 40 of them, in use, in which the frames could be used just as well one side up as the other, he never reverses them at all. He says he does not believe in it. Aren't we human beings "funny," any way?

THE RASPBERRY.

ITS SOIL, AND HOW TO PROPAGATE.

THE raspberry is divided into two distinct classes—the “Black-cap” family that is propagated by the tips of the young canes taking root in the soil during the autumn months, and the “Red” raspberries, which are propagated from root-cuttings, or by the suckers, which are produced freely from the roots. The former is of American and the latter of foreign origin, and both, as a rule, produce fruit only on canes of the previous year's growth—the canes which have borne fruit, dying during the latter part of the summer, and during autumn, and the young shoots which started out vigorously from near the surface of the ground, early in the season, taking their place to bear fruit the next year.

The raspberry follows the strawberry in the time of ripening; and while it is one of the most wholesome, refreshing, and agreeable mid-summer desert fruits, it is also largely used in canning and in making syrups, jellies, and jams. The black-caps are easily dried, about three quarts of the berries making a pound of dried fruit, and the market quotations of 25 to 35 cts. per lb. seem to indicate that dried raspberries are appreciated.

That a fruit so highly esteemed by nearly every one should have been so much neglected, can be explained only on the hypothesis that there is a widespread misapprehension in regard to the soil, culture, and pruning required, or that the productiveness, freedom from insects and diseases, and general reliableness of the hardier varieties of the raspberry, have been overlooked or underrated.

In the last five years our Kittatinny blackberry-canes have been killed to the ground twice by the cold winter; and apples, peaches, cherries, plums, grapes, currants, and gooseberries, have all failed once, and most of them several times, from the cold of winter or frosts of spring; but we have gathered five good crops of raspberries in that time. Then the growing of the fruits commonly found in our orchards and gardens means a continual conflict with rabbits, mice, caterpillars, borers, curculios, and currant-worms; but the raspberry bids defiance to all these. With us (and I might say in this section of country) the raspberry is entirely exempt from disease and the attack of insects.

RED RASPBERRIES AND THEIR PROPAGATION.

These, if let alone, will propagate themselves quite freely by sending up young shoots for several feet in every direction. When plants are wanted it is only necessary to let these suckers remain until the proper season for transplanting.

BLACK-CAPS.

These will propagate themselves to a limited extent; but the only certain way to obtain any considerable number of plants is to bend down and bury three or four inches of the points of the canes in the ground. We do this by inserting a mason's trowel four or five inches in the ground, at an angle of about 45 degrees; then, without withdrawing the trowel, the handle is raised a little, and the point of the cane pushed in under the trowel, and held there while the trowel is removed, and the soil firmed over the point of the cane by pressing on it with one foot. This work should be done about the first of September, and the tips of the canes will be well rooted, and ready to transplant, by the latter part of October.

TRANSPLANTING.

It is claimed that plants set in the fall will make a much stronger growth the first year, while the objections urged against fall planting are, that the plants are liable to be heaved out like clover and wheat by the alternate freezing and thawing in winter, and that heavy soils sometimes bake over the plants so as to interfere with the growth. An extra three or four inches of soil drawn up over the plants in the fall, to be raked off in the spring, or a small forkful of coarse manure dropped on each plant in the fall, is recommended by some of those who favor fall planting. Spring planting, as a rule, should be done as soon as the ground is in good condition for working; but when the plants are obtained within a short distance it is possible to make late planting successful. In May, 1883, we put out about 2500 plants when the young shoots were from four to eight inches high. The plants were conveyed, about 75 at a time, some 20 rods in a hand-cart, and I distributed them along the rows, taking care not to break the young shoots, and transferring along with the plants all the clay that adhered to the roots. In setting the plants, one person went along and put the plants in place, spreading out the roots and drawing a little fine soil over them; a second followed, pouring about a pint of water over the roots of each plant; and a third person, with a hoe, finished the operation by drawing an inch or two of dry soil over that which had been wetted. This transplanting was done in a very dry time, but there were not as many as a dozen plants which failed to grow, and they did well enough to yield about twenty bushels of fine berries in 1884.

The old stereotyped phrase, “Plant shallow,” has become obsolete within a few years; and at present, most if not all of the successful raspberry-growers advise and practice planting to a depth of three or four inches. By planting at this depth they are less apt to be blown over by the wind, and my experience seems to indicate that they are more apt to live and grow, than when planted shallow.

R. M. REYNOLDS.

East Springfield, O., Sept. 8, 1885.

Thanks, friend R., for your suggestions. It seems to me the outlook is quite favorable for bee-keepers to have a good plantation of raspberries in connection with the honey business. The demand for the fruit is excellent; and with recent improvements in the way of evaporating and drying, there is little probability of any market ever being overstocked.

MORE ABOUT GELSEMIUM HONEY.

SOME ADDITIONAL FACTS.

WITH your permission I should like to make a few remarks in reference to the yellow jessamine, or *Gelsemium sempervirens*, of the South, poison honey, etc. I have lived in the South, and gathered this plant a great many times in its various stages of growth, and at all times of the year—have used the fresh infusion and tincture from the green root, and the infusion and tincture from the dry root, in many forms of disease, and in no case were there any injurious effects from its use, but the most desirable and agreeable results. I have chewed the flowers, and known others to do so, when I have been gathering the vine—have made the infusion from the

flowers, and used it myself, given to my family, and given to others many times in various forms of disease, and found it far less active as a remedial agent than the root, and not the least indication of poisoning in any instance. I think I am capable of speaking understandingly in this matter, as I have made extensive use of the remedy for *thirty years*, and have pushed the use of it to secure its constitutional effects *hundreds* of times, with the best possible results, but always careful to stop the use of the drug as soon as its relaxing effects were secured.

Two instances now recur to me, where it was used with intent to take life—one at the east, in one of the New-England States, the other in Michigan. Both were men, and convicts in State prison. Each man took one ounce of the fluid extract at one dose. Both were thought dead for a short time, but recovered fully without any bad results.

Another case is reported in the American Dispensary, where a lad took six drachms of the tincture at one dose without any injury.

But there are *two* kinds of gelsemium in the South, and varying so little that I don't think one person in a hundred where I live knew the difference. In botany it is known as the *Gelsemium alba*, or white gelsemium, and is poisonous. The flowers are almost exactly alike in size and shape, bloom at the same time, but a lighter color, some almost white. The vine is larger near the ground, having tendrils like the grape or ivy, a darker color, tapering, and generally not so long; has a larger leaf, and opposite, on long footstalks. The root is light yellow, or almost white, and straight, and about the same length as the medicinal root, a sensibly bitter, disagreeable, sickening taste. The medicinal vine has no tendrils; the root is not sickening nor unpleasant to the taste of most persons. I have carried it in my pocket, and eaten of it daily, and known others to do so, as they ate "calamus" or ginseng, the latter commonly called "sang" in the South. The flowers of the medicinal vine are of a rich beautiful yellow, and impart a very agreeable perfume to the surrounding atmosphere, as fully as a field of buckwheat in full bloom, and freighted to its utmost with its precious burden of nectar.

The flowers of the other variety furnish no perceptible odor or perfume, unless in close contact, and will sicken and vomit severely by chewing or infusion.

The case of the lady from the North, as mentioned by A. T. P., explains as clearly as any thing can that she gathered the flowers of *Gelsemium alba*, and not those of *Gelsemium sempervirens*. A further explanation is also given by the fact that the person who furnished the honey for Mrs. Dukes "lived on the border of a swamp," the chosen habitat of the poison variety, "and that very few flowers of other plants were accessible to the bees." A. T. P. further says, "During the war many of the Federal soldiers who ate freely of the honey found out its deadly effects to their cost, although no deaths followed," etc. Observe, *they ate freely, experienced its deadly effects, but nobody died.*" He goes on to say, "The poisonous qualities of wild honey are known to everybody—no one dare eat it." But the Federal soldiers ate of it *freely*. They must have been a tough set of men, that the Confederate guns and deadly poisons only made sick.

Now, there is nothing strange or marvelous in this account at all—just what would happen nine times out of ten, the world over. I know a case

where some honey was brought into a camp of soldiers in Michigan. They ate *freely* of the honey, and in a short time a hundred or more were terribly sick, and I think many of them would have died without immediate help. Many others ate of the *same* honey, and were not sick at all. Why this difference in effects? Two reasons will answer the question. 1. A constitutional difference, and state of the stomach.

2. They ate less freely—moderately, temperately. Suppose my horse has not had any grain for three or six months, and I should feed him a full mess, say six or eight quarts of grain feed for the *first* feed. What do you think would become of my horse? I think about the first work I should be called upon to perform would be to haul him away to his grave!

It is a very difficult matter to make people understand the difference between *little* and *much* when eating something they very much like. They seem to comprehend the matter only when the grip of pain is upon them. When I was living on the "Table Lands" of Tennessee, about twenty-five miles from Chattanooga, I was called in great haste to see a family that were taken suddenly and severely sick. Arriving at the house I learned they had cut a bee-tree and brought away a nice lot of honey, and all that were sick had eaten some of the honey. I wished to know how much any one of them had eaten, and, picking up a piece of nice comb, he replied, "A snack about this big, I reckon." Now, a "snack" of the size shown me would weigh $\frac{1}{2}$ of a pound; and with blood in their eye they declared the honey was poisoned, and would throw it away. I proposed, innocently as possible, to take the honey and test it for poison. Very cheerfully they gave me the honey, and I tested it three times a day—as long as it lasted!

A lady lives close by me now whom I think one teaspoonful of honey would kill in an hour. A brother of mine dare not eat *one drop* unless it has been boiled. A son of mine several years ago ate quite freely, when I was extracting, the first of the season, and was made terribly sick. The honey was white clover. Now, in every single instance that has come under my notice of honey-poisoning, it was the large quantity used that caused the trouble. Neither the honey nor the bees were to blame.

When water, cold or hot, will not extract half of the medical properties of the gelsemium in hours of digestion, I can't believe that the nectar, secreted in a single night, and gathered by the bees, can be so destructive to life.

In all I have said in regard to the poison variety, I do not mean to be understood that the bees gathered poisoned honey from the flowers because the plant was poisonous when tested medicinally. This variety will soon sicken intensely, taken in a warm tea or cold. The medicinal will not sicken. It does not *possess* nausea at all. The other day I was talking with a neighbor of Hiram Roop, who told me that Roop stated that the greater part of honey taken from wild bees is stung by the bees, and full of bee-stings, in that State, and is very poisonous. Since that I was talking with another old bee-keeper about poison honey, and I mentioned the account given by H. Roop. He made the same remark, and stated further that he had seen thousands of their stings in a piece of honey no larger than his hand, and that it was very dangerous to eat the honey.

I never had a thought that bees possess so much of the spirit of man that they would destroy their stores, or, what is the next thing to it, make it dangerous or destructive by their stinging the honey.

Elsie, Mich.

N. L. HIGBIE, M. D.

Thank you, Dr. H., for the points you bring out. I have for years been well aware of this fact: That it is not safe to eat heartily of any article of food when it first comes in season; but after having eaten of it for several days, increasing the quantity gradually, I find I can eat a full meal of almost any thing, without any disagreeable results. Nature seems to prefer taking small doses to begin with until she learns how to manage or handle a new article of diet. When she gets accustomed to it, then she disposes of a full meal, or even an overdose, without any "trouble in the camp." It seems to me hardly probable, however, that the deaths to which our attention has been called were produced in this way; still, it may be so. I know that it is quite customary, when a beetrue is cut, for those present to eat honey in excess—sometimes a full pound or more; and if those who do so have not tasted of any honey before for a year, I shouldn't be at all surprised if they were taken sick—yes, severely sick. It is, I believe, well known that people accustom themselves to poison, so as to take doses with impunity that would kill one, not so accustomed, outright. It is in this way that we become hardened, or inured to the effect of bee-stings. In cutting bee-trees, more or less bees are mashed. Sometimes great numbers of them are crushed all through the honey. It would not be at all surprising, if the poison set free from the poison-bags of these crushed bees would produce serious effects where said honey is eaten in large quantities.

A COLONY THAT KILLS ALL THEIR QUEENS.

WHY IS THERE NO HONEY IN THE CLOVER OR BUCKWHEAT?

I WANT you to tell me what ails my weak swarm. I found the queen on the ground one evening, and put her in the wrong hive, and lost her. There was no young brood, and I gave them brood from another. They raised two queens, but I found them both killed this morning, and still no queen or young brood. What had I better do with them? Can you tell me why the white clover and buckwheat have no honey in this year? I have just come from the buckwheat patch. It is in full bloom, and no bees in the patch. The main honey flow was from the basswood. R. H. WHITCHER.

Patton, Ind., Aug. 25, 1885.

Friend W., I can not say why the colony you mention kills all their queens; but in answer to your question what to do with them, you must get a laying queen in the hive by some means. As they have been queenless already for some little time, about the only way to save them would be to give them a fertile queen at once. They probably have some sort of a queen, or something that they consider to be a queen, and she must be hunted out and removed before you can do any thing.—I can not tell why there is no honey in the clover or buckwheat this

season; but I can tell you that it is something that happens once in a while—oftener with buckwheat than with clover. The honey secretion may commence, however, at any time; and if you keep watch I think you will see your bees on the buckwheat sooner or later.

A GLIMPSE AT THE HOME OF ONE OF OUR MICHIGAN FRIENDS.

HIS SHOP AND APIARY, WHERE HE WORKS.

I SEND you by this mail a photograph of my chaff-hive apiary of 83 colonies. The little white dots in the yard are white clover. Then comes our strawberry-bed and other garden truck. It being the height of the swarming season, my partner (see Mar. 15 GLEANINGS) is out with the Shepard hiving-box, and I with my basket, with a piece of comb securely fastened in the bottom, and a handle attached to the outside of bottom, which I much prefer to the box. Mrs. H. stands on the walk leading to the honey-house, with smoker in hand, all loaded, in case it is needed. The shop and lumber are in the background. The grapevines and other foliage show more densely in the picture than they really are. The hives are in rows both ways, and alternate red, white, and blue each way in the rows. Our house stands just to the right, where the walks diverge.

With this short explanation you will comprehend the situation.

GEO. E. HILTON.

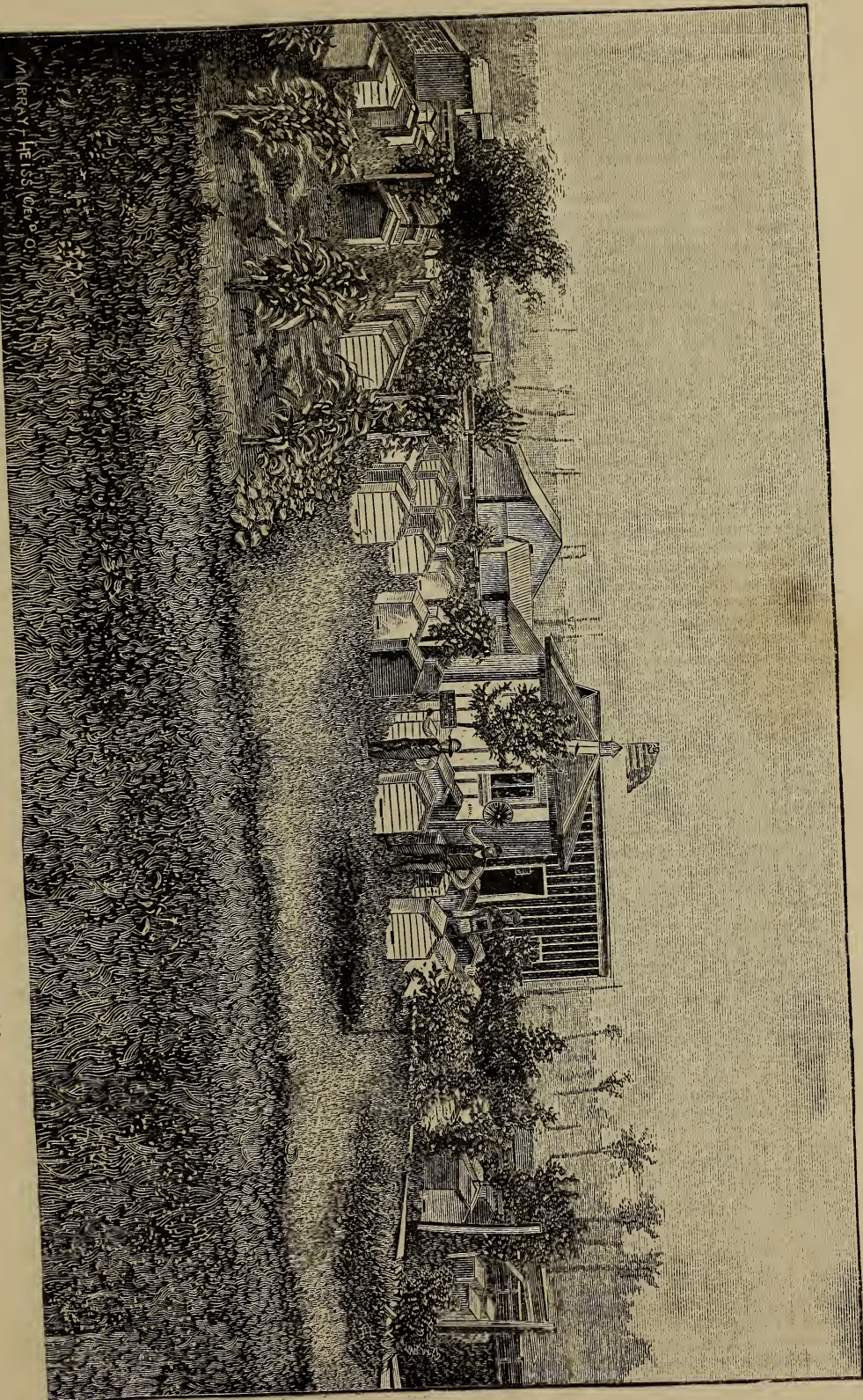
Fremont, Mich., Aug. 17, 1885.

Glad to see you, friend H., and to take a look at your bee-hives and other improvements round about. Your letter is altogether too short. I presume that house with a flag floating on it is the honey-house, but you don't say so. The queer-looking arrangement in your hand, resembling a peach-basket fastened to a pole, is, I presume, for the purpose of taking down swarms. No doubt this will answer an excellent purpose, but they are so easily mashed up is one reason we have not adopted them more. We suppose your "partner" is that little eight-year-old chap from whom we had a letter on page 207, GLEANINGS for March 15. The building right back of the honey-house, striped with white battens, is probably the shop where "Uncle George & Co." hang out their shingle; and that is where the 100 chaff hives were made for that man who lives in Ohio and sent away off to Michigan.

Away back beyond the buildings we get glimpses of the pine-trees, and we presume the secret of your being able to make good work cheaper than we do is partly on account of those same pine-trees. You are right close to the pine regions of Michigan.

Our engraver did not make the white clover very natural, but perhaps he did the best he could at it. We should have been glad to get a glimpse of the strawberries, but they would be pretty hard to show in a picture.

Well, good-by, Uncle George & Co.; and we hope you may have lots of business and much prosperity; and, more than all, that your little partner, and his uncle too, may both be led in wisdom's ways.



MURRAY HEISS (sc. & c.)

APLARY AND WORKSHOP OF GEORGE E. HULTON, FREMONT, MICHIGAN.

SWEET CLOVER.

HOW MUCH HONEY WILL AN ACRE OF SWEET CLOVER YIELD?

I WISH to say a word in favor of sweet clover, to the many bee-keepers who read GLEANINGS. Many years ago, long before I kept bees, I read in the *American Agriculturist* of sweet clover as an incomparable honey-plant. We read in A. I. Root's catalogue: "The statement has been made, that an acre will support 20 colonies of bees, and afford from 500 to 1000 lbs. of honey." The statement is not too high, as I will show.

Four years ago I bought of A. I. Root 4 lbs. of sweet-clover seed. I sowed the same in April, with oats, on one acre of land, and got a very thin stand. I think the oats smothered it out. The next year it blossomed and seeded, but there was not enough of it for me to determine its merits as a honey-plant. Last year there was a thick mat of green growth, but no bloom. This year nearly the whole patch was covered with a dense growth of clover, which commenced to blossom about the first of July. Basswood opened about the 5th of July, and bees left every thing else for that. Immediately after basswood they went on to the sweet clover, and for about three weeks there was a continual roar of bees from "early morn till dewy eve."

I had, at the close of basswood, 35 colonies; increased during sweet clover to 46. At close of basswood I took off all sealed boxes of honey; at close of sweet clover I had over 500 1-lb. boxes of sealed honey, all from sweet clover, as every one in Western Iowa knows there is no bloom after basswood until blackheart, that yields honey. During this honey dearth the queens almost quit laying. Now, sweet clover fills up this gap; besides the surplus honey gathered, the hives are kept full of bees and brood, in the best of plight for fall bloom.

I should say, that the 35 to 45 colonies would use, in raising brood and filling up brood-frames, not less than 500 lbs. during the three or four weeks, making 1000 lbs. of honey from the one acre. The bloom can be prolonged until frost, by clipping off the tops, say 18 to 20 inches, when first seeds begin to brown.

To my Western friends, I think I can not urge upon them too strongly the importance of filling up the gap between basswood and blackheart, and sweet clover does it. To have the bloom every year you must have two fields, one following the year after the first, as it blooms only alternate years. I think one acre sufficient for 20 colonies.

Hillsdale, Iowa.

E. W. PITZER.

Friend P., I am very much obliged to you for your report of sweet clover; but 1000 lbs. from one acre during four weeks seems to me almost incredible. If you will see what I say about the amount of honey that a single plant will yield, under the head of "Spider Plant," in the A B C book, you will see what an enormous quantity each plant must produce. Each blossom of the sweet clover would have to literally drip with honey, to give 1000 lbs. to the acre. Now, the spider and Simpson plant do drip with honey, but they don't furnish any such amount; and from careful examination of sweet-clover blossoms in localities where no bees have access, I can not feel satisfied that the amount of honey secreted in the blossoms is

very large. I am forced to the conclusion that your bees must have secured this quantity of honey from some other source. I may, however, be mistaken. I should be very glad indeed to believe it were possible for sweet clover to do what you claim.

FALSE STATEMENTS IN REGARD TO THE HONEY BUSINESS OF OUR COUNTRY.

As a protection to our bee-keeping population, we propose in this department to publish the names of newspapers that persist in publishing false statements in regard to the purity of honey which we as bee-keepers put on the market.

MANUFACTURED HONEY.

WE are pleased to give place to the following excellent leading editorial by the *British Bee-Journal* of Sept. 1:

"The first work that came to our hands when we entered upon our vocation as a bee-keeper was that of Langstroth on the *Hive and the Honey-Bee*; and though these 'salid days' have long passed away, we have never forgotten the wondrous fascination of his charming style and the practical information we derived from the perusal of his work; and deep and sincere has been the gratitude we have ever since felt toward this 'old man eloquent' for all the pleasure and the instruction we received from his teachings. There was, however, one passage in his book which we would fain have wished had been omitted, and that was his 'recipe for making a beautiful liquid honey, which the best judges have pronounced one of the most luscious articles they have ever tasted.' 'Making honey!' What an incongruity of language! Honey is the symbol of all that is natural, pure, and genuine; honey has been the theme of poets from the time of 'blind Meonides' to the present day; honey is the joy of age and youth; honey is the sweet, rich, bright 'effluence of the essence' of flowers, the most delightful and delighting of all the productions of nature; and we can never see the words 'artificial' or 'manufactured' conjoined with it without uttering an internal protest.

"We are, however, too apt to think that adulteration is confined to American honey; but the denunciations of honey mingled with glucose, etc., have been uttered as earnestly and as frequently by American as by British bee-keepers. In Cowan's *Guide-book* are to be found extracts from American journals, stating the extent to which adulteration is practiced in that country, and vigorously denouncing the practice. It is not only in New York or Chicago that this so-called honey is manufactured. In Switzerland this 'manufacture' is carried on to a large extent; the analysis of Mr. Otto Hehner informs us that the 'Finest Swiss Honey,' and the 'Finest Swiss Table Honey,' are 'to a certainty adulterated;' and yet this honey is to be found on the tables of all Swiss hotels, and is said to be much relished and patronized by English travelers.

"But, why need we look abroad? In our own country the manufacture of honey is carried on largely. Our attention has recently been directed to a wholesale price current of a city firm in which '—s Manufactured Honey' is advertised; and by it we are informed that 'the success of this article seems assured, and that the orders have come in so rapidly that the manufacturers have been unable to cope with the demand.' We have not handled or seen or tasted this 'article,' and therefore are unconscious of its virtues.' It may be a most luscious produce, and suitable to the British palate; but, why call it 'honey'? Is not our language rich enough in itself to give it some other name, or would it not have been possible to derive from the Latin or the Greek some other appellation than that of our much-loved and time-honored term 'honey'? Honey is associated with our earliest (we had almost written 'our holiest') ideas of all that is sweet, pure, and perfect. The royal Psalmist can find no loftier comparison of his love to the 'words' of God than to honey,—'honey and (do we not almost hear the smacking of the royal lips?) the honey-comb.' 'How sweet are thy words unto my taste; yea, sweeter than honey to my mouth.' The Wise Man shows his appreciation of the virtues of honey by the wholesome advice he gives: 'My son,

eat thou honey, because it is good; and the honey-comb which is sweet to thy taste.' The Easterns, when they wish to describe the advantages and fertility of a country, speak of it as 'a land flowing with milk and honey.' And therefore it is that we have so decided an objection that this grand superlative word should be degraded to that of a humble positive by its association with such adjectives as 'artificial' or 'manufactured.' Are bees to be superseded in future by the devices of ever-meddling Man? Are we to pronounce that their 'occupation is gone'? Is honey to be pale before the light of this new production? Not yet, we opine. Never was there a time when the culture of bees was more attended to; and never was there a time when men's minds were so exercised as to discover fresh outlets and new utilities for honey in the shape of confections, drinks, medicines, etc. We believe that yet there is a great future in store for the products of the honey-bee; and we trust that pure unadulterated honey will ever hold its position, and that our friends of the British Honey and Fruit-farming Companies will put forth very effort to penetrate to every hearth and home, and to establish the virtues of pure honey, and to prove to a discerning public the superiority of British honey, not only to the 'manufactured article,' but also to that which is so largely imported from foreign countries."

We wish especially to call attention to one point in the above excellent paper; and that is, the absurdity of labeling a manufactured article *honey*. Call it table syrup, nectar, golden drip, or what you choose, but don't call it honey. If it is good and wholesome, and people are satisfied with it, let them have it; but for pity's sake don't tell a falsehood on the label. The writer of the above justly declares that honey has been, and ought to be now, an emblem "of all that is sweet, pure, and perfect." And now why not let it be so still? I presume our good old friend Langstroth never dreamed of making a bad precedent when he spoke about a "recipe for making a beautiful liquid honey." Certainly he never thought of encouraging the idea of labeling goods falsely. If anybody wants corn syrup flavored to order, let him have it; but by all means have the label plain and honest.

I inclose a slip cut from *Home News*, Briu Mawr, Pa., on honey adulteration. N. J. ISRAEL.
Beallsville, O.

BOGUS HONEY.

The *Maine Farmer* is opposed to fraudulent practices, whether by the farmer or the living creatures under his care. In regard to the practice of making honey out of sugar by the simple process of putting it through the honey-comb, it says:

If the bee can get a living on his front doorstep he will go no further for it, even though acres of white clover are near. If sugar and water, or any saccharine matter, be placed in the hive, or near it, the bees will store it in comb as long as it is provided. They handle it as carefully, and pack it away as neatly, as though it were honey; and when it is sealed, and offered for sale in handsome white boxes, it is apparently pure honey. Is it not a shame that the bee should be employed to carry on such abominable swindling? The bee-keeper who uses this method says: "Most persons can not tell by the taste whether it be honey or not." This may be true, because honey is not on the table often enough to make itself known. Experts, even, have failed sometimes to detect a counterfeit piece of money, but this did not help the counterfeiter, who went to jail as soon as found guilty.

Some bee-keepers report a yield of two and three hundred pounds of surplus comb from a single colony in one season, and they tell how 'twas done; and more; and more, they advise others to adopt their method; namely, feeding sugar and water at a cost of not more than five cents a pound, and selling it as pure honey for twenty-five and thirty cents a pound. This practice does more to injure and bring into disrepute the honey trade than any thing else

said about it or carried on in it. It is rank dishonesty and cheating—that, and nothing less. Bees must be fed sometimes in the fall, to help them through the winter, and spring feeding is practiced to stimulate brood-raising, that the hives may be full of workers when the honey harvest begins; but every honest bee-keeper should use his influence against the comb-honey imposture—against the turning awry of the original purpose and design of the bee.

Very good, friends of the *Maine Farmer*. But I want to take exceptions to just one little statement you make—"some bee-keepers," etc. Now, I am pretty well conversant with all the bee-journals published in the United States, and I am acquainted with most of the prominent honey-producers, but I have heard of only one bee-keeper who tells how to feed sugar for getting comb honey, which can be sold as honey. The one bee-keeper is Mrs. Lizzie Cotton, of Maine, and I protest against classing her among our honey-producers; and I protest, too, against calling her "some honey-producers," and against using the word *they* in speaking of her. Please say *one* of the bee-keepers, will you not, Mr. *Maine Farmer*? and instead of using the pronoun *they*, put it *she*, or else tell us who else in our broad land has ever publicly advised feeding sugar, and selling it for honey. Mrs. Cotton has replied to some of the charges made against her, but she has never yet replied to this one, nor has she changed that chapter in her book, that I know of. Will Mrs. Cotton please take notice?

WANTED—A SITUATION.

A NOVEL ADVERTISEMENT.

OUR irrepressible friend Mrs. Chaddock asks us to publish the following. We would give it a place in the advertising columns, if there seemed to be any way by which she was going to make a speculation out of it. Here it is:

I want employment somewhere in the South, during the months of January and February next. I will work for my board. I would rather act as companion to some rich old lady, or be employed to read to some one; but I am not very particular. If I can't get either of those positions, my next choice would be to drive a mule team, and sell or peddle honey. I like a mule team first rate, they seem so light-hearted and free; but if a chance offers for me to sell honey for some one, I won't quibble about the kind of team. I can drive horses very well.

Then I should like picking oranges (are oranges ripe then?) and rolling them in tissue paper to send north, or I could feed pigs and pick geese, if no other work offers. The reason I want to go south is on account of my health.

If any one thinks of employing me, I will furnish references of good character and industrious habits.

MAHALA B. CHADDOCK.

P. S.—I would rather go to Florida. M. B. C.

Now I wonder if I am not Yankee enough to guess what you are up to, my good friend. Of course, when you get to driving that mule team, and selling oranges and honey, you will write to some of the papers, and tell us of the adventures you have. Well, we have no objections at all, providing your notes by the way are sent to GLEANINGS.

HEADS OF GRAIN FROM DIFFERENT FIELDS.

THE QUEEN THAT LIVED TO BE FIVE YEARS OLD;
MORE ABOUT HER, ETC.

YOU ask if I may not have been deceived in the queen reported to be five years old. Possibly I may by a young queen entering the hive and taking her place; but I have no idea that I was, for I watched her closely, and I think I should have known her from any other queen I ever saw. Her swarm did not dwindle. The only time I ever had spring dwindling in my apiary was when I lost 16 out of 32 by it. I bought her mother of a Mr. King, in Columbus, Ind. I do not know how old she was, but the hive was marked, "Commenced laying June 6." She remained in my apiary three years and ten months, leading out a swarm each year, dying 50 days after her last swarm issued. I bought her the last of September. Her wing was clipped, so I am certain she was not superseded.

Since you referred to it, I do remember having read Mr. Doolittle's statement, that "queens raised in a hive with an old queen are always good." I have now in my apiary an imported queen which I bought of Messrs. Charles Dadant & Son, in April, 1883, which must now be in her fourth year; and notwithstanding her long ocean trip she shows no signs of decay at this writing.

GLEANINGS, Sept. 1, 1885, page 587, first column, bottom line, read "mother" instead of "other;" second line from bottom, leave out "raised." The way it reads, it would imply that fall-raised queens are rarely superseded, but I intended to say that queens are rarely superseded in the fall.

Patterson, Texas, Sept. 15, 1885. E. S. ARVINE.

COMB FOUNDATION WITH LONG CELLS.

Why do not some of you bee-men get up a foundation-mill that will make cells longer one way than the other, for the surplus department, something like stretched foundation? as experience shows that bees never use misshapen cells for either brood or bee-bread, as also that they never put pollen in drone-cells.

We had honey-dew stored with such a strong resinous taste and smell as to be nauseating.

I have sections, regular size, $4\frac{1}{4} \times 4\frac{1}{4} \times 2$, as you term them, while what you call odd sizes, $4\frac{1}{2} \times 4\frac{1}{2} \times 1\frac{3}{4}$, sell readily. Reason, bees cap the honey more promptly, and it sells more promptly, being a more showy-shaped pound, although containing slightly less cubical contents.

H. B. SPERRY.

Nokomis, Montgomery Co., Ill.

Friend S., we made just exactly the kind of fdn. you describe, in some of our earlier experiments, but we did it by accident, and because we could not do any better. The fdn. did work, too, a good deal as you mention; that is, bees would not put brood in it, and for that reason no one wanted it, and the rolls were broken up and worked over.—We suppose you make your section boxes larger while you make them narrower, so as to retain the weight at as nearly a pound as possible; but all the comb honey we are selling this season is in the usual $\frac{1}{2}$ by $\frac{1}{2}$, by a little less than 2 in thickness. Of course, they do not hold quite a pound; but instead of being an objection, it seems rather to please our customers better.

SPAFFORD'S DRONE-EXCLUDER.

I notice in last GLEANINGS a communication of my esteemed fellow-townsmen B. F. Spafford, describing his drone-excluder. I wish to say it does the work. I favor a modification of it—a very simple one, I herewith send you, which is a diminutive model. This gives two drone and two worker passages. In experimenting I found that the drones in trying to get out would so obstruct the passage as to greatly hinder and annoy the bees. I found, on removing the excluder, a row of drones all along the passage, and there would be a frantic rush by all to get out. The form I send can very easily be made of tin or zinc at a trifling expense. S. Y. ORR.

Morning Sun, Iowa, Aug. 21, 1885.

I will explain to the friends, that the little model sent by friend O. amounts to about the same thing as the Jones entrance-guard, only it is quite a little longer, and the ends are left open. The drones, being unable to get through the perforated metal, finally go out at the ends; but on coming back they try to enter at the usual place of the worker-bees. No doubt this will work all right, and obviate the difficulty mentioned. The only point to be determined would be the proper length. If made too long, the drones might not find their way out through the open ends; and if too short, they would get in where they go out. To determine this, many experiments will be needed. Meanwhile we extend our thanks to friend O.

WHY DID THEY SWARM OUT?

A few days ago, about 10 o'clock my little brother came running to me and told me the bees were swarming. Well, thought I, something's wrong. They were coming out of a hive containing a first swarm, hived June 11 on 8 sheets of fdn., the queen at least a year old, and having a crippled wing. I couldn't find the queen, high nor low. The bees all came back. Upon examining the hive I found that they had not more than a pound or so of honey in all, so I first thought it was starvation. But by removing the frames I found three solid full of capped brood, others containing uncapped larvae, lots of capped drone-brood (this was a frame of natural comb), and many queen-cells capped.

Now, what I should like to know is, were they trying to supersede the old queen, or was it starvation, or something else? I have but 3 colonies of my own, and 3 belonging to father, to attend to (am as yet an embryo apiarist). Five out of the six, including the one described above, have drones, or drone-brood; 3 have queen-cells started; none of them have half enough winter stores. They are strong in bees, having good prolific Italian queens, all but two being young. We have had a very poor honey season; not a drop of surplus. Bees have consumed stores in brood-rearing; plenty of corn pollen. Please tell me what's wrong, and what to do.

Chandler, Ind., Aug. 21, 1885. ALVIN L. HEINE.

Friend H., my impression is that it was the dearth of honey that caused the swarming-out. When no honey is coming in, and especially when none comes for a period of several weeks, bees oftentimes show strange freaks; and it is not infrequent for them to swarm as you describe, just because their stores are going daily, and are almost gone. They seem to get desperate, as it were, and want to do something, even if that some-

thing be jumping out of the frying-pan into the fire, as in your case.

QUEENS, VEXATIONS IN INTRODUCING.

I am just a beginner in bee-keeping, yet I have had my share of trials and vexations already. I should like to inquire what causes my bees to act so unreasonable when I am trying to introduce a new queen. I keep Mrs. Queen caged 48 hours; and if the bees act rough toward her I cage her again; and then, if they act kindly, and accept her, I release her. On three different occasions this season they seemed to accept the strange queen; but in the course of five or six days I would find them fighting and stinging each other in the same hive. They have kept this up for a week or ten days. I have opened the hive and found them balling or hanging to the queen's wings, legs, etc., and they finally kill the queen. Then I have taken a frame from another hive, with bees and queen, and given them, and they would accept her. What can I do in such cases? It is discouraging to lose so many valuable queens.

H. M. PARKER.

Plymouth, Ohio, Aug. 18, 1885.

Friend P., I can not say why your bees act thus, unless it is because of a scarcity of stores. During a protracted dearth of honey, bees often act in just the way you mention. Feeding will probably remedy the trouble, providing you use care, and don't get any robbing started. Perhaps you have found out the remedy already.

WINTER ENTRANCE FOR BEES WHEN PACKED IN BOXES.

In packing bees for winter in boxes, how large ought the opening to be from the entrance of the hive to the outside of the box? S. K. FUSON.

Rockville, Ind., Sept. 17, 1885.

Friend F., I would have the entrance on the inside $\frac{1}{2}$ inch in width, in order that we may exclude mice. The length is not material, but I would have it as much as eight or ten inches, in order to give a good air-space. We have found, by careful experiments, that our bees winter better with the entrances to our chaff hives open full width than where contracted.

WORKERS THAT CAN'T FLY: 50 LBS. OF HONEY BESIDES THE INCREASE FROM ONE POUND OF BEES.

I received a queen with 1 lb. of bees from Louisiana—a good prolific queen, only hundreds of the workers can't fly. They look all right, only they spread their wings when they crawl around, and have not the power to fly. They leave the hive when a few days old, and die a few feet from the hive, in clusters, and scattered here and there. Said queen is superseded. They had a young queen laying 14 days, and I put the old queen in a hive, and she is laying finely. The one pound of bees have made, to date, 50 lbs. extracted honey, and I have taken away four frames of brood, and they are heavy now.

E. E. SMITH.

Clayton, Mich., Sept. 11, 1885.

CLEANING SMOKER-TUBES; SOMETHING FURTHER ABOUT IT.

I have read in GLEANINGS of several different ways of cleaning the Clark smoker, so I will give you my way. Take a large wire, about a foot long; make a loop on one end for a handle, and bend the other so as to fit the pipe of the smoker. Every time this wire is used, the end that fits the pipe should

be heated quite hot. As the wire is inserted, the heat will soften the gummy matter so that the pipe can be cleaned very easily. I prefer heating the wire to any method I have seen yet. Also a word in regard to fuel. Rotten wood is good, but hard to get. Rags emit a disagreeable odor, and gum the smoker. I keep, in the center of my apiary, a box full of small chips from the dooryard, and I find that they burn as long, make the hottest fire, and keep the smoker the cleanest, of any thing I have used yet. Wood of any kind burns well in a smoker; if dry, we need not be particular about it.

Lone Tree, Ia.

ROWLAND SHERBURNE.

A DAILY RECORD OF ONE COLONY: 134 LBS. OF HONEY IN ONE WEEK.

My swarm on Fairbanks scales gained, July 27th, 16 lbs.; 28th, 17 lbs.; 29th, 17 lbs.; 30th, 18 lbs.; 31st, 23½ lbs.; Aug. 1st, 24½ lbs., an hour before they stopped work, when I extracted them; they would have gained 2 or 3 lbs. more by dark. Aug. 2d, 17 lbs. I weigh and balance them every evening, making 134 lbs. gain in a week, and no mistake, in a two story chaff hive, and I divided them in June. I have extracted, so far, 3150 lbs. basswood, and not over yet, but drawing to a close. I have taken off no sections yet; have regained my loss in bees in wintering and springing.

C. G. DARLING, 40—80.

Lineklaen, N. Y., Aug. 3, 1885.

BEEES IN LOUISIANA.

My bees are doing their level best; the honey is dark, for which they are not to blame, but it is very clear and sweet, with a fine flavor.

The "New South," as our Northern friends call it, is looking up here. Our cotton, corn, and small-grain crops are splendid. The cotton is yielding largely this year, and I shall have some of the honey saved separate. The blue and white water-pepper is beginning to bloom, and is yielding well. The ever-blooming elm is also full again, and bees are swarming on it.

About eight miles from us is a place where buzzards roost, and they have killed the trees for acres and acres. A man near us cut five trees in one day with bees in them, just around the buzzards' roost, and he says that just when the buzzards commence alighting on a tree having bees in it, the bees leave it and go to another, and that he can count 100 trees on ten acres, with bees in them. The neighbors cut a bee-tree near us last Saturday, and on Sunday the bees came to me. I think my honey-gatherers led them home. I put them in a hive, and they are doing well.

ST. J. T. MOORE.

Monroe, La., Aug. 9, 1885.

We are glad to hear so good a report from you, friend M.; but I can't quite understand why there should be bee-trees where the buzzards roost, unless it is because there are more dead trees, and therefore more hollow trunks. But, why is it that the buzzards kill the trees? Is it because of the unpleasant smell they carry with them?

DO MARTINS EAT BEES?

Will you kindly give me your opinion on the following question? I have a fancy martin-box in my yard, in which 12 or 15 birds have made their homes, and are rearing their young, and my neighbor has several colonies of bees which he claims are suffering through the depredations of my birds. He claims that they carry off his bees to feed their young, and asks me to destroy the birds. I think a

great deal of my birds, and do not wish to sacrifice them until the fact is fully established that they are an injury to my neighbor. The birds are company for me, and are also useful in keeping the hawks away from my poultry. I know professional bee-men in Ohio (my native State), and also in this State, who keep martins on their premises, and it strikes me they would not do so if the martins ate their working bees.

A. V. LYLE.

Cline, Texas.

Friend L., I am sorry to say that martins do sometimes learn to eat bees; and, for that matter so do common fowls occasionally. It seems to be an acquired habit, like hens eating tomatoes, cucumbers, and the like. Sometimes, when short of food, they get the hang of it and remember it as long as they live; and then, again, they never notice them at all. I would try placing plenty of such food as the martins prefer, where they can get it conveniently, and may be they will give up bees. When any of the feathered tribes, however, discover what a sweet morsel a heavily laden bee is to the palate, it is not so easy to get them over it. Perhaps when the bees cease gathering honey, and stop tumbling around their hives, heavily laden, the mischief may cease.

HOW TO MAIL QUEENS SAFELY.

Many of our friends north ask for our secret in always sending queens safely. Our losses up to July 30th were one-fourth of one per cent. We use well-ripened honey (ripened in the hive), and pure pulverized sugar. Make it so that it will not run—not too thick. Make it as you need it for *each mailing*, and mail the queens as soon as the cages are ready. Send out no queen that is not a good layer, as this is the proof of health and condition. Use precaution in caging; be very careful in handling her majesty. We rarely touch her. Do not use the smoker. We use the Peet cage for mailing, and send from Oregon to Maine without loss, other than delay, or, we should say, astrays. J. W. K. SHAW.

Loreauville, La., Aug. 13, 1885.

RETAILING EXTRACTED HONEY IN WALNUT SHOW-CASES.

I have had a great many large show-cases, built of walnut and ash, to hold a large quantity of box honey and ornamental tumblers of extracted, and have placed them in the principal stores throughout the city, and they keep account of what they sell, and settle whenever I say so. They seem to prefer this plan rather than paying cash for a single crate of 18 boxes; because whatever they can not sell I have agreed to take back, and they receive their percentage on what they sell. But this plan has almost blocked out all the sales of all the small bee-keepers who used to sell small quantities for cash. They, of course, don't like my style of doing business; but my aim has always been to be ahead in the honey line, although I find myself behind in some others.

J. C. SIMMONS.

Pottsville, Pa., Sept. 4, 1885.

IMMATURE BROOD; WHY DO BEES CARRY IT OUT?

Will you please tell us what makes our bees uncap and carry out of the hive hatching brood from new combs on foundation? They are strong in bees, have plenty of honey and brood in all stages, and no signs of moth worms in the hive.

Quincy, Mich., Sept. 4, 1885.

M. J. RAWSON.

The above question has been answered

quite a number of times this fall. I know of only two causes to produce such results. The first is, scanty stores, or, in other words, starvation. As a last resort, the bees will uncap the larvæ to suck the juices, and the lifeless bodies will be seen scattered around the entrance. The other cause is the work of the moth. The moth worms often tunnel under the bodies of the brood; and the bees, in their efforts to dig out the mischief, will sometimes tear considerable brood, sacrificing the life of some of their offspring, as a last resort to save the life of the whole colony. I have never known this sort of trouble to be worse on new combs of fdn., but usually to the contrary.

DOES A FERTILE QUEEN EVER LEAVE THE HIVE, EXCEPT AT SWARMING TIME?

Would the queen I got last spring leave the hive and go to another, eight feet away?

Azle, Texas, Sept. 11, 1885. O. L. KIMBROUGH.

Friend K., this question has been discussed quite a little in some of our back volumes. As a rule, a fertile queen never leaves a hive except with a swarm; but there seem to be some exceptions to this rule. Thus, queens have been found in a hive several feet away, without any apparent explanations in the matter. We once found the queens had changed places in two hives, about the distance apart you mention. One of them we knew, because both of her wings had been clipped entirely off. Such changes are sometimes made while extracting, the queen being carelessly shaken in front of the hive, and by mistake crawling into some other one instead of her own.

CARNIOLAN BEES, AND HOW TO DISTINGUISH THE CROSSES.

I concur with the article by Dr. E. K. Blanck, on page 596 of GLEANINGS, but I now feel safe in saying something more of Carniolan bees. You ask how we shall distinguish crosses with our native bees. I answer, by their behavior, if not by color. I have not seen a cross by native drones; but whenever we get in any bees the disposition of unrest belonging to our native race, we will reject them. Carniolan bees are not disturbed by lifting their combs from the hive; and I believe it will be found that their cross with blacks will be a very much better race than the cross of Italians with blacks.

Another point I make for Carniolan bees is, that they are more readily gotten off the combs and sections when you want them off. This trait will commend them to all, for it is a matter of importance when robbers are around thickly. They again differ, as widely as can be, from our black bees, when shaken off the combs, in not flying around, but at once crawling into the hive again. Carniolan queens, when mated with Italian drones, produce some beautiful bees, some having three bands and some none, but all with the gray or white bands of down, behind the yellow bands. I send you a cage with some of these bees. I have finished requeening my whole apiary of 62 colonies with Carniolan queens. I repeat, let us choose queens on account of their quality, and not on account of their dress.

S. W. MORRISON, M. D.

Oxford, Pa., Sept., 1885.

Thanks, friend M., for the cage of bees, and for your suggestions. I agree with you

in regard to the importance of choosing queens on account of their honey-producing qualities, rather than on account of any accidental stripes they may possess.

IS THE WATER-OAK HONEY INJURIOUS TO BEES?

I have a small lot of bees, only 24 stands. The bees in this section of country gathered honey from the water-oak. It is not fit to eat, and I am much afraid it will injure the bees. If you can tell what is the cause, let it be known through your journal. There is no one in this section who can tell the cause. They gathered that stuff in the month of May last year.

F. B. FULKERSON.

Barnard, Kan., May 31, 1885.

Friend F., I think the honey you mention must have been the product of aphides.—There has been considerable said in our back volumes in regard to honey from the oak. Some of it is unpleasant, like that you describe, while other specimens rank very fair. I should dislike to go into winter quarters with stores of such honey as you refer to.

THAT BEE-DISEASE, AGAIN.

Will you please inform me what ails my bees, and what shall I do to cure them? In March, two stands of Cyprians commenced dying off, and at this time all of my Cyprians, Holy-Lands, and Italians, are afflicted. They get black, and have a shiny or glossy appearance, also a jerking or tumbling movement, and they nearly always get on their backs to die. I have 41 black swarms, and they are not diseased. I have perused your A B C book, and you said at that time, when it was printed, that you did not know any cause, and that you had had only one swarm that was diseased, and that you put it with another, and that it came out all right.

C. K. DECKER.

Hanford, Tulare Co., Cal., June 8, 1885.

Friend D., the only remedy I have ever found is to destroy the queen and put in a new one, as mentioned in the A B C book, and I have never yet known a case of failure. From this it would seem that the disease is something inherited from the queen. A new queen produces new bees, and these new bees don't seem to be subject to the malady.

HORSEMINT HONEY.

I am perfectly astonished at the large honey-dealers of the North. I am all out of patience with them. I don't know why they could be so prejudiced against horsemint honey (for it certainly is nothing more nor less than a prejudice). The plant itself has a nice odor. Some people make tea of it to drink, and it is a good medicine for summer complaints. Now, why not have good honey from it, I'd like to know? It is just like giving a dog a bad name, and he is sure to go by it. Horsemint honey is almost always gathered in a dry time, and is generally thick and nice, just from the hive. There is a sad mistake about it, some way or other. I think it is the mildest honey that is raised in the South.

Braeken, Tex., Sept. 2, 1885.

N. J. W.

Friend W., the most of the horsemint honey that has been put on the market was not sufficiently ripened, and as a consequence it had a rank taste that few people would call pleasant. Give us a nice article thoroughly ripened, and I think it will rank fairly by the side of any we have. The honey itself should be able to overcome the prejudice.

TROUBLE IN REMOVING WIDE FRAMES.

I want to give you a little of my experience with section boxes and frames. I was taking some honey lately, and found my wide frames all fast. The space between the upper and lower frames was all filled with honey; and in trying to get the first wide frame and section boxes out, the frame and some of the boxes pulled to pieces, so I about came to the conclusion to abandon the section boxes, if I can't find some remedy. I found my narrow frames with comb built from one to the other, and they had to be cut apart to get them out. What shall I do about it? I have thought I had better abandon the section boxes and use only the narrow frames.

REV. E. C. COX.

Centerville, Leon Co., Texas, July 21, 1885.

Friend C., the Heddon honey-board remedies the trouble you mention, of attachments of comb to the wide frames, or to the cases containing section boxes. The reason why you found your narrow frames built together solid was because your bees had their hive full, and hadn't room to store their surplus. Give your bees more room, and look them over oftener.

SPAFFORD'S DRONE-TRAP.

I see you have Spafford's drone-excluder in your last issue. I tried one on the same principle this season, and it did not answer, because it blocked the entrance for the worker-bees; the drones being heavier than the workers, they stopped all ingress; but my trap does away with that difficulty.

Elora, Ont., Aug. 28, 1885.

G. STRANGWAY.

Thanks for your report in regard to the drone-trap, friend S. I will explain to our readers, that the one you describe is essentially the same thing as figured in our pages a year or two ago, and described in the A B C book. I think the difficulty with the Spafford drone-trap can be obviated by making more openings for the worker-bees.

WILL MAPLE SYRUP ANSWER FOR WINTER STORES, ETC.?

Will you please tell me, through next GLEANINGS, if maple syrup, tintured with tartaric acid to prevent crystallization, will do to feed bees on for winter stores, without giving any bad effects, such as dysentery?

T. H. WHEATLEY.

East Brookfield, Vt., Sept. 18, 1885.

Friend W., tartaric acid would do no hurt, for it has been repeatedly used to prevent granulation of cane sugar; but I am afraid that the maple syrup you would be apt to find would hardly be sufficiently free from foreign matter, such as maple syrup always contains, to render it a safe feed for winter stores. A nice article of maple syrup would answer, without doubt; but if you have a nice article you surely can not afford it for your bees, for it would command, in almost any market, double or treble the price of a syrup made of granulated sugar. Any sort of sugar must be pretty nearly chemically pure, to be proper food for winter stores, and the granulated sugar of commerce is, as a rule, the cheapest of any you can get for the purpose, for it is refined in a wholesale way, so that the cost of getting it in a remarkably pure state is comparatively trifling, while the maple syrup usually to be obtained, and, in fact, all other kinds of syrups, in-

cluding honey itself, as the bees usually gather it from the flowers, contain a vast amount of foreign substances, which are quite likely to make it unfit for such a diet as the bees require when kept for months in confinement as they are during the winter.

Inclosed find a piece from the New York *Sun* of August 3d. It may be well for you to keep track of that station, to inform your readers.

Bees are making but little honey this summer. They are at work on buckwheat now. We shall get but little honey from it, as it will be a short crop.

GEORGE RICHARDS.

Harpersville, N. Y., Aug. 11, 1885.

EXPERIMENTS IN BEE CULTURE.

An agricultural station has recently been established at Aurora, Ill., in connection with the entomological division of the Department of Agriculture. Mr. Nelson W. McLain has been appointed to take charge of the station, and Prof. Riley has instructed him to pay particular attention to these subjects:

To secure the introduction and domestication of such races of bees as are reported to possess desirable traits and characteristics; to prove by experiments their value to agriculturists of the United States, and their adaptation to our climate and honey-producing flora; to make experiments in the crossing and mingling of races, and endeavor to secure the type or types best adapted to the uses of our bee-keepers; to make experiments in the methods of artificial fertilization; to test the various methods of preparing bees for winter; to gather statistics concerning the bee-keeping industry in the United States; to make observations concerning varieties of honey-producing plants for bee-keeping; to study the true causes of diseases yet imperfectly understood, and the best methods of preventing or curing them; and to obtain facts as to the capacity of bees to injure fruit.

WILL IT PAY TO FEED BEES DESTITUTE OF STORES?

My black bees have not honey enough to take them to mid-winter, except about three stands. All my Italians, the new swarm or colony, will have to be fed. One colony (new) has not one ounce of honey. Will it pay to feed enough to them, while the weather is warm, to winter? How much sugar to a colony? This season has been very poor for honey here except a week or so during the bloom of basswood. Lots of buckwheat here, but it doesn't furnish honey.

W. S. JONES.

Central Station, W. Va., Sept. 8, 1885.

I suppose, friend J., circumstances will have to decide the matter to a certain extent; but I should say it would most assuredly pay to feed bees; and for myself I would feed them, even if it did not pay—that is, unless I had found by experience that bee-keeping was a much poorer business than any reports we have had yet; at least, I feel sure it will pay in the end instead of letting them starve. You may not get your money back the first season after feeding, but this is true of almost any farm crop. I can not answer the question as to how much sugar per colony, any more than a farmer could tell how much it would cost to feed a cow through the winter; but as a rule we might say from 15 to 20 lbs., if feeding is commenced this month.

WILL THE CLARK SMOKER BURN CHOPPED-UP CORN-COBS?

Please let me know if your Clark smokers will burn corn-cobs that have been ground on a feed-mill, into pieces the size of three or four kernels of corn, and dried in the oven. I think the chaff and

small pieces of cob blown from the large corn-shell-ers would be good fuel, but have never tried it. Corn-cobs prepared as above burn well in the Bingham smoker.

GEO. M. THOMSON.

Grand Junction, Ia., Sept. 11, 1885.

The Clark smoker would be a rather poor affair, friend T., if it would not burn such fuel as you mention. Corn-cobs make a large volume of smoke, and for a time it was thought to be the best fuel that could be procured; and the only drawback is, that it contains a much larger quantity of tarry matter than rotten wood, and many have discarded it because it fills up the tubes of the smoker so quickly. I should think that the chaff and small pieces of cob you mention would make splendid fuel.

WHY DO BEES ABSCOND FROM THEIR HIVES?

I should like to ask you concerning some dissatisfaction among my bees. One of my Italian queens came out this spring, carrying with her all the workers that were able to fly, leaving the brood-chamber full of brood, from that hatching, down to eggs, with some little storage. Soon afterward another one of my Italians came out of her own hive, bringing with her all the bees in the hive, and went in the hive the first had left, and stayed till next day, when they came out and settled. I caught the queen and cropped her wings, and put them back in their own hive. She seemed to be very badly dissatisfied, and the bees came out for three or four successive days and would settle, and in a few minutes would go back. On examination I found they had lost their queen, and found they had exhausted their stores. I gave them some stores, after which they went to work and reared a fine queen, as they had a good supply of eggs, and are now doing well. This crazy way of doing puzzled me very much, and I shall be very thankful if you or some of the friends would give me some clew to it and remedy for it. My bees are not gathering much honey yet, on account of too much rain, but they seem to be gaining rapidly.

J. W. SEGLER.

Paris, Texas, July 6, 1885.

Friend S., this matter is fully discussed in the ABC book, under the head of "Absconding Swarms." In your case they absconded because of scanty stores. This they are especially apt to do in the spring. A good many times they go off with a little honey left in the hives, as you mention.

ADULT BEES CAN SECRETE WAX.

Can working bees secrete wax? I see that W. Connelly takes the ground that bees old enough to be workers can make no more wax (page 164). I just feel like saying a word, and will give you a case that I know to be a fact. One hive of bees swarmed, and the swarm was hived in the usual manner. That swarm filled their hive full, and swarmed in just 29 days. As it takes 21 days to hatch a bee from an egg, this last swarm were the same bees as the first swarm, and they had been workers for 20 days. But they filled up the second hive with comb and honey. It took three weeks to fill the last hive, so those bees old enough to be workers did secrete wax, and build comb for six weeks.

E. FRANCE.

Platteville, Wis., Aug. 24, 1885.

Will the friends who claim that old bees can not secrete wax please answer friend F.?

SYRIO-ITALIANS; A WEAK COLONY WITH A LAYING
QUEEN AND QUEEN-CELLS.

I have been requeening my apiary this year with Syrio-Italians, raising my queens from my best Syrian stocks; and by keeping down the drones in my Syrians, and allowing the Italians to raise them, I think I shall have most of my queens mated with Italian drones. I like that stock very much. They cap the honey very white, and are ready to go into the sections whenever the honey-flow will warrant them, without the coaxing so often necessary with the Italians. They are quiet to handle, are very good honey-gatherers, and the queens are good layers, and easily seen on the comb.

I had a singular experience with one colony. I removed the queen and made a nucleus with her, in order that the colony might raise queen-cells. Ten days afterward I cut out all the queen-cells and returned the queen to the old colony, and with her a frame of bees with brood and eggs. Some days after I looked into this hive to see that she was all right, when, to my sorrow, I found queen-cells started, and almost ready for capping on the frame returned with the queen. I at once concluded the queen was killed, and looked no further. When those queen-cells were ripe I went to the hive and cut them out; on looking further I found frames of eggs, hatching larvæ, more queen-cells, and my queen also. The colony was not strong enough to want to swarm, then why these queen-cells? The queen apparently had not laid any eggs for three or four days after being returned to the hive.

J. SINGLETON.

Brooklyn Village, O., Aug. 24, 1885.

It would seem, friend S., that the bees had forgotten their old queen to such an extent that they kept on with their preparations for rearing a new queen. I have observed the same thing once or twice, and I should consider it a little risky to let a queen loose without caging, after she had been away from the hive for ten days. You will notice, that by the operation you succeeded in getting queen-cells built while the hive had a laying queen. I have also done the same thing under the same circumstances.

A FAIR REPORT FROM TEXAS, ETC.

The honey season of 1885 here in Central Texas has been generally unsatisfactory. My home apiary did very well on horsemint alone; later on it made some honey from honey-dew, and the last of August the upland elms bloomed, but the flow was for only a few days. Bees now are working on goat-weed and broom-weed. By the way, a good plant of broom-weed makes the best brush I have seen for brushing off bees from the combs.

From 100 colonies this season I have taken 4500 lbs. of honey, and left plenty to winter on.

I have never seen any mention of the Texas *Bee-Keeper* in GLEANINGS. It is run by the Common-Sense Bee-Hive Co.

I use only the A. I. Root Simplicity, and in my varied experience I have never found its equal.

W. N. WRIGGLESWORTH.

Crawford, Texas, Sept. 16, 1885.

Friend W., I have not mentioned the Texas *Bee-Keeper*, for the very reason you give. The man who has been for several years running the Common-Sense bee-hive has been in such bad repute that I could not consistently say any thing good of him, and

so I said nothing in regard to the publication. If I am any way at fault in the matter, I am glad to be corrected. If the man has turned over a new leaf, we most assuredly bid him God speed.

SOUR HONEY AND MOLDY COMBS; WHAT CAUSED
IT?

On the 21st ult. I went some three miles to a friend's to look over his bees and take honey in one of the colonies. The honey not sealed was sour; also the pollen and combs were moldy. The bees seemed lively and healthy. There were eggs, hatched larvæ, and sealed brood. The 22d of June there issued a large swarm from the above hive, so there could be no hatching bees at the present writing. Please tell us what to do with them—cut out all the moldy and spoiled combs, or let them alone?

JAMES A. KIME.

Fairfield, Adams Co., Pa., July 25, 1885.

Friend K., I have never in my experience found a case like the one mentioned, where a good colony of bees wouldn't make sour honey sweet, and bring it out all right. I would just let them go ahead, so long as they seem to prosper and do well. Perhaps it might be well to cut out the moldy pollen, although I believe the bees will fix that, if they haven't too much of it on hand at one time.

A BALLED QUEEN LIBERATED BY BEING PLUNGED
INTO WATER; MARTIN'S KILLING BEES.

The queen and bees came Friday evening. I put them in Saturday morning. I looked at them in the evening, and I saw that they didn't like her; three workers were dead. I put them back till the next day noon, and looked again and found her balled. They had cut under to her, so I dropped them into some water and got the queen all right, so I took a cage four inches square and put her back on hatching brood so she would have company. I looked the next day, and found twenty or more young bees with her, so I made a small hole in the comb, set them back, looked in the next morning, found no queen under the cage nor in any other place—no eggs—so I put some eggs in on the 22d. This morning, the 23d, I found four queen-cells started.

I have some as fine Italian bees, I think, as can be found anywhere. I got eight out of nine through the winter. My melon-juice and sugar were all right for wintering. Bees are not doing much just now. I have lots of melons. Come over, and bring Huber and the girls. I am getting 20 cents for my honey. I have 17 colonies now, 2 Italians. I lost 4 young Italian queens this summer, and 2 blacks.

The bee-martin is bad here. I have been using my gun. I didn't think they did any harm till I saw them catching drones, and I think they got the queens also.

J. AVERY.

Michigantown, Ind., Aug. 23, 1885.

DO NOT SEND HONEY TO THE CITY; CREATE A
HOME MARKET.

I want to say a few words to the brethren about selling honey. It is certainly a bad plan to send your honey to the city. We want to get the people to eat honey, then we shall have a market for it. As it now is, not one family in a hundred buys honey for family use, and only a very few keep it for visitors. Now, are we likely to get them to eating honey by sending it to Chicago, St. Louis, or any other city, to be piled up in the commission room

and reported dull sale, or no sale at all? Why should it sell? What's to make it sell? Too much honey for the city, and no orders from storekeepers in the country, for fear it will be smashed up on the road. As a consequence, honey is a stranger to most folks. Now, in a few words I should like to encourage my bee-keeping friends to sell their honey at home as much as possible; for if we don't, worse times await us. A. LINDLEY, 42-98.

New Providence, Iowa.

QUESTIONS IN REGARD TO PREPARATION FOR WINTER.

How much sugar would you put to a quart of water, if you feed this month?

Do you think it best to feed at present, or wait until packed for winter?

I agree with Dr. Morrison, about this being a very bad year for bees in Pennsylvania. I have taken 800 lbs. of honey from 25 colonies. I know that you were very successful last winter, and that is the reason I send to you.

I have been using granulated sugar from Franklin Refinery, Philadelphia; and when the syrup is left in a vessel, a blue substance settles like indigo. It does not poison the bees.

Dilworthtown, Pa.

HENRY P. FAUCETT.

The amount of sugar for a gallon, as given in the A B C, is 25 lbs.—I would commence feeding at once; and as we use chaff hives altogether for wintering, our bees are already packed, except putting on top cushions.—I have never seen the blue substance you mention, in a syrup made of granulated sugar. I presume it is something that got in by accident during the refining process, and is probably in no way deleterious.

AN ENCOURAGING REPORT FROM FRIEND HEDDON.

As you will see by the inclosed railroad receipt, I have shipped you by freight a 50 and 100 lb. keg of basswood honey, such as always brings orders for more. If you want any more of it, order at any time, and place to my credit. Accept my thanks for your very kind and liberal notice, which I appreciate. My ten tons of honey will all be gone in sixty days, I think.

After losing three-fourths of 476 colonies, I was called rash for investing \$700 in bees last spring; but over \$1600 worth of honey, and 450 colonies, has rewarded my courage. JAMES HEDDON.

Dowagiac, Mich., Sept. 21, 1885.

If I am correct, the above was not intended for publication; but I have taken the liberty of using it, and it is just the kind of reports we want. Tell us in a few words, friends, what you have to encourage you in continuing to be bee-keepers.

IDENTIFYING ROBBERS WITH WHEAT FLOUR.

I have a few questions to ask. I am a beginner. I had a misfortune last Sunday. I was away from home, and when I got home my folks told me that there were some robber-bees at our hives. I went into the apiary, and found one swarm flying very fast. I went across the road, and found one of my neighbor's swarms flying very fast also. He denied that they were robbing. I went back and sprinkled flour on them, and they went into his hive, so I shut mine up till next day noon. I opened them a little. I had my hive open half an hour, then his rushed in and began carrying out the honey. I shut my

hive, then they clustered again on the opposite side. I took a bunch of straw and burned them. Did I take the right way to get rid of them? If not, please tell me what I should have done.

Indian River, N. Y.

MICHAEL ZEHR.

Friend Z., your plan of proving that the robber-bees belonged to your neighbor's hives is a good one, and it was quite right and proper to give him proof that they were his bees; but you had no more right to kill them than you have to kill your neighbor's cow or horse if it should come into your doorway or garden. There are many easier ways of stopping robbing than by killing the robbers. Any of our text-books on bee culture would direct you how to manage. I should say that neither your neighbor nor his bees were any way at fault—that the fault was *yours* in permitting a hive of bees to remain in condition where it would not repel robbers. They were probably queenless, or the entrance was much too large for the number of bees in the hive, or something of that sort.

MRS. CHADDOCK'S LETTER.

She Tells us How to Make Good Mucilage at an Expense of Only Five Cents for Half a Gallon.

SHE ALSO TELLS US SOMETHING ABOUT OUR GOOD FRIEND E. A. GASTMAN, OF DECATUR, ILLS.

MR. ROOT:—You say in your price list that you do not see how people can afford to make mucilage and sell it for five cents a bottle, and throw in a brush. I think I can tell you how. This summer I attended the teachers' institute in Lewistown, Ill., and our instructor in the reading-classes was Mr. E. A. Gastman, of Decatur, Ill. He has been for 25 years principal of the city schools in Decatur. He is also a practical bee-keeper, having at the present time some 75 colonies in the city. Mr. Gastman is a funny man. I have known men before who could be funny for an hour or two, but never before saw one who could keep on saying funny things for two whole weeks, and not run out. One of the things he said was, that "some people are not all alike." He writes bee-articles for the *Illinois State Journal*. Perhaps you know all about him.

Well, one day he told us how to make mucilage, and we all wrote it down in our scratch-books. He said we could make half a gallon for five cents. Take five cents' worth of gum tragacanth, add warm water to it, a little at a time, and let it swell. Add a little pulverized alum, to keep it from molding. If wanted dry on paper, like postage-stamps, add a little glue; and if wanted to paste labels on specimens—stones, for instance—add a little sugar.

MAHALA B. CHADDOCK.

Vermont, Ill., Sept. 18, 1885.

Thanks, Mrs. C., for your recipe. I think it is exactly the same that I used years ago in preparing objects for the microscope. If I remember correctly, it is apt to sour unless something is put in to prevent. May be the alum would do that; if not, I would add a little carbolic acid. Gum tragacanth needs to be soaked quite a while before it forms a mucilage.

REPORTS DISCOURAGING.

REPORT OF THE HONEY SEASON IN WESTERN NORTH CAROLINA.

WE are one of your A B C scholars, and saw a letter in last GLEANINGS from Henry Stewart, which rather goes back on us natives of the mountains of Western North Carolina, about energy, and making this a great land for honey. We have a great many honey-plants here, to be sure; but the honey is not in them by the quantity, or the old blacks can not get at it. My father has had from 25 to 60 stands for the last 15 years, and I do not remember that he ever got more than 50 lbs. surplus any season from his best stand, and I think 75 lbs. is the best I have heard of from any one stand in this county. Now, the point Mr. Stewart writes from is about 50 or 60 miles west of here, but about the same kind of a country as this. It is on the same range of the Blue Ridge. Now, you can see from my report how honey has flowed here this year. I have invested about \$50.00 in improved bee-fixtures—every thing that would help them out that I saw in your catalogue—your hive, frames, section box, foundation, and about every thing that would be of any service to them, and have not got 25 lbs. of surplus honey, and some of my bees are without honey now, and will have to be fed from this till spring, or starve. Some few may have enough to carry them through till spring. I know of two other lots, of about 15 hives each, that have not got 50 lbs. of surplus each this year. I commenced in the spring with sixteen; lost one and doubled back to 12, and bought one four-frame nucleus. Now all that I have for my investment is three stands of Italians from my four-frame nucleus, and I have raised and introduced 8 Italian queens, and think I shall get three more, and have all in Simplicity hives but four. But still I will not go into Blasted Hopes yet, as this has been one of the worst seasons for honey that I ever have seen in this country. I do not think there is one-tenth the honey made here there is in a fair season. I have been in our town, Asheville, from once to five times every week for the last four months, and have heard of but one lot of honey offered for sale there. I have never seen my bees come in with large loads at any time, except when locust and sourwood were in bloom, and but for a little while then. I can not see the cause for honey being so scarce this year in this country; but it is not in the bloom; or if it is, the bees did not get it out.

R. L. PATTON.

Best, Buncombe Co., N. C., Sept. 17, 1885.

THE NAMELESS BEE-DISEASE; A RATHER DISCOURAGING REPORT FROM AN OLD FRIEND.

Inclosed please find 75 cts. for GLEANINGS for nine months. Don't send it any more, as I am not able to take it any longer. Put me in Blasted Hopes again. Three years ago I got from 70 colonies over 11,000 lbs. of honey; two years ago from 97 colonies, 5000 lbs.; last year, 1100 lbs. from 99 colonies. This year from 100 colonies, 2000 lbs. I gave all of my time to my bees, and am most dreadfully discouraged. I have had, this entire season, black shiny bees carried out, seemingly in distress. They could not fly, or scarcely fly; would go back, and be again carried out. The trouble extended to a large

part of my bees. Some dwindled while others kept up. As the queen was very prolific, the trouble is nearly stopped, save one hive which is dragging the shiny fellows out. I am greatly alarmed; for if winter weather should assist the trouble, I believe all the bees would go.

One man here, out of 215 colonies lost all but 19 last winter, and his bees were afflicted the same; but he thought the black shiny bees were old and dying bees; but I know better, as it does attack young bees also. I know whereof I speak. The brood is all right in the comb. The California friends called your attention to the trouble, but you passed it lightly, referring to the A B C book. I have lost bushels of bees during the summer, in the way above described.

A. L. KLAR.

Pana, Ill., Sept. 21, 1885.

I beg pardon, friend K., but I did not mean to pass the matter over lightly, as you term it. So far as I know, nothing has been brought to light in regard to the malady, further than is given in the A B C book, and it seems hardly worth while to repeat what I have given there. Have you and your friends tried a new strain of blood in your apiaries—that is, giving a new queen, and rearing queens from her? I shall be glad of any facts in the matter that will help us to manage the trouble.

This has been a very poor season for bees and honey. From ninety hives, spring count, in good condition, I have taken only about 1200 lbs. of comb honey, and shall perhaps return some of it, as some hives will probably be too light for winter, without help. Honey is selling here in comb for 10 and 13 cts. per lb. California honey injures our market.

MRS. R. A. NORTH.

Shellsburg, Iowa, Aug. 29, 1885.

HUMBUGS AND SWINDLES PERTAINING TO BEE CULTURE.

MORE ABOUT MRS. COTTON.

AS quite a number of my friends in this vicinity have been humbugged and defrauded by purchasing hives and bees of the woman named below, I send you the inclosed slip, to keep her methods before the public.

Andover, Mass., Sept. 14, 1885. L. H. SHELDON.

Below we give the newspaper item which our friend sends us:

I read in the *Tribune* a quoted paragraph about *Lizzie E. Cotton*, saying that she took \$20 from a poor one-armed woman and sent in return "part of a hive containing few bees and no queen." She served us precisely the same way, and we threatened to sue her for damages, but could not spend time to follow the matter up. But can not this contemptible fraud be stopped? Her method is to work in certain sections until too hot for her, then steal away to another, answer no letters, but ply her swindle as before.—H. M. Holmes, Orleans, Mass.

I presume friend Sheldon would furnish the details of the way in which these friends have been humbugged, if it were necessary; but the matter has been gone over so many times at length, that it will hardly be advisable to repeat it in detail. Newspaper editors who are receiving and inserting her advertisement should look into the matter,

DOES IT HURT A QUEEN TO BE CRIPPLED IN ONE OF HER LEGS, ETC.?

ALSO SOMETHING ABOUT MAKING POSITIVE STATEMENTS WITHOUT POSITIVE KNOWLEDGE.

I RECEIVED from you, Sept. 2d, a "select tested" Italian queen, and Sept. 4th I received an untested queen. The select tested queen I introduced to a colony that had been queenless 9 days. Having removed the queen 9 days previous to the day when I received the queen, I removed the queen-cells which they had built, and caged the queen on a comb over sealed honey. After a period of 24 hours I lifted the comb from the hive and cut a hole from the opposite side of the comb through into the cage, leaving the loose piece of honey for the bees to remove, and liberate the queen after the comb was returned to the hive. After a lapse of two days I again lifted the comb from the hive, to be sure that the queen was liberated. I found that she had commenced laying, as I found eggs in the comb. I of course concluded that every thing was all right, removed the cage, and closed the hive. Four or five days ago I went to see how my queen was getting along. I found her, and she is a very nice looking queen, but I was grieved to see that one of her legs was useless. Although she continued laying while I held the comb in my hands, it made me feel very sad to see her dragging her poor shriveled leg over the comb. I can't see why the bees should have stung the queen I prized so highly, when I had the conditions favorable, as I supposed, for her kind reception. The queen still continues laying, though not nearly as fast as the dollar queen. I wonder if the crippled queen will probably live; and if so, if it would probably render her unfit for a breeding queen. I can't answer these questions, as I never had such experience before.

Last year I was very unfortunate in buying queens. I mailed a queen-breeder \$5.00 at different times, \$2.00 of which he said he never received. Of course, I believed him, but I thought he was very unkind, after I wrote and told him I had sent it, when he replied that he thought I was mistaken, as he did not believe it would have been lost or stolen. If I had expressed, or implied doubt, in my statement, I should not have felt wounded. I am well aware that some people will make a positive statement, without possessing a positive knowledge of the subject they are talking about. He referred me to that class of individuals, in a way to include me with them.

WATSON ALLEN.

Bernardsville, N. J., Sept. 21, 1885.

Friend A., there have been frequent reports of queens that, when received and introduced, were found to be crippled in the way you mention, or in a similar way; and sometimes we find queens in our own apiary with one or more of their legs useless. We don't know how this comes about; but as it more frequently happens with queens that have been introduced, I have had an opinion that it was caused by pulling their legs while they were balled, at the time of introducing. The main question is, of course, "Does it damage them?" I have been in the habit of writing to customers when such complaints have been made, to let the queens remain in the hive, and note whether they were as prolific as other queens. In the majority of cases the reports seem to be that

they were just as good, to all appearances. In your case, it would seem as if she were not as good, although it does not necessarily follow, after all, for queens differ greatly in fertility. Still a select tested queen ought to be as prolific as almost any dollar queen, for none are ever sent out as select tested, unless they are good layers.

Now in regard to your last paragraph. I do think it is one of the most unkind things, to make positive statements without positive knowledge, especially where these statements reflect on the honesty of somebody else. A few days ago, in corresponding in regard to some money which had been sent us, but which we never received, the writer said he had sent money by mail thousands of times, and had never lost a copper, and he believed that the money he had sent this time had reached our office, because it seemed to him unreasonable that money should go all right so many times, and then one letter be lost. What absurd logic! The man was a postmaster too. Had he been conversant with his own business he must have known that mail robberies are occurring every now and then. A few weeks ago, quite a quantity of old letters were sent to us by the department. A mail-bag had been robbed, and rifled of every thing that was valuable, and the rest thrown away. The department found these after a time, and took great pains to place them in our hands. It is not only unchristianlike, but I should say that it was extremely ungentlemanly, for any one to say he does not believe a letter was ever sent, from the simple fact that it was never received. People who send out comparatively few letters may not meet with a loss for years; but, does that give them any right to say they do not believe losses occur at all? In our large business, comprising oftentimes several hundreds of letters a day, both going out and coming in, we have an opportunity of knowing how frequently such things do occur; and while I am on the subject, I might mention that the cases where people think they have sent money, but have forgotten to do so, are much more frequent than the actual losses. In fact, this sort of thing occurs so often that we have had postal cards printed like the following, to send out to that class of customers. Of course, the blanks are to be filled for meeting any case in question, and a great many times some portions of the print have to be crossed out, especially the postscript. Here is the blank, such as we put on a postal:

MEDINA, O.,	188
MR.	
YOURS is just this minute opened, and both letter and envelope are in my hands. You say you have inclosed but there is positively only	
The envelope was closely sealed, and bears no trace of having been opened. The inside of the envelope contains nothing, and none of its contents have been dropped. In our business we open several hundred letters a day, and it is not a very uncommon thing that the writer has omitted to put in all he intended to inclose. We would like to have you write at once whether or not you can explain the above shortage. Trusting that it was only an omission on your part, we remain Yours Respectfully,	
A. I. Root, Clerk.	
P. S.—As you may be in immediate want of the goods, we have concluded to forward them right along, to save you delay.	
A. I. ROOT.	

You will notice the expression, "Both letter and envelope are in my hands." The

clerk who is intrusted with this very important post always fills out the blanks while she is holding the letter and money in her left hand. This, you will see, precludes the possibility of a mistake. In the majority of cases the writer of the letter replies, on receipt of the above printed postal, that the letter was sent to the postoffice by mistake, before the money was put in, or something of that sort. But sometimes it is impossible to get any trace or clew as to where the money did go. Do you wish to know how often we have occasion to use these printed cards? Well, I should say usually once or twice a week, and during the busy season sometimes as often as two or three times a day are needed. It illustrates the hasty and loose way in which many of the brethren do business. If anybody wants further proof of the carelessness of letter-writers, he should examine the reports from the Dead-Letter Office, which are sent out at the close of each year. Some of the friends have been so unkind as to throw out insinuations regarding the integrity of our clerks. Let me tell you, friends, that all these important positions are filled only by those who have, by long years of faithful work, fully demonstrated their fitness for such positions. Our books and mails and money matters are almost all handled by exceedingly careful, faithful, and intelligent women.

OHIO BEE-KEEPERS ON WINTERING.

FRIEND CLARKE'S COMMENTS ON WHAT WAS SAID AND DONE.

GLEANINGS has made a "new departure" in publishing the proceedings of the Ohio State Bee-keepers' Association, which I have read with much interest, especially the part relating to wintering. Some very suggestive ideas were thrown out on that subject, which I feel moved to discuss a little.

PROPER SIZE OF A WINTER COLONY.

Dr. Besse and Mrs. Culp expressed themselves as averse to very populous colonies at the beginning of winter. I think they are right. Father Langstroth's maxim, "Keep all colonies strong," is a good one for the working season, but I think it is often the case that they are stronger than is necessary or desirable in the fall of the year. A hive, as well as a city, may be overcrowded. I remember, that in the early days of the North-American Beekeepers' Association, when friend Hosmer, of Minnesota, used to be a prominent figure among us (what has become of him?) he astonished us on one occasion by the views he enunciated on this point. He said it is all nonsense to be too humane to kill bees. It is no more cruel to kill old bees than it is to shoot old horses. For his part, he did not want more than about a pint of bees to the hive, when he fixed things up for winter. If a hive were too populous he shook part of the bees on to the ground. It was mostly old bees that fell, and they would die before spring any way. He did not want his hives cluttered up with a lot of dead bees. Wintering bees is like garnering seed-grain for next year's crop; all you need is a good start in the spring. My experience last winter convinced me that colonies of small size will do well, if properly cared for.

Why should bees be permitted to outlive their usefulness? Is it any more barbarous to get rid of old bees than it is to dispatch superfluous drones, or massacre the whole of them when their functions are over for the season? During the working season, bees are incessantly active, and wear themselves out very quickly. It is doubtful whether any that have "borne the heat and burden of the day" survive until the following spring, and I have come to think that only old bees are tempted to take flight in pleasant winter weather. Their instinct teaches them to leave the hive; they enjoy a final flight; like Moses they have their Pisgah, disappear, and "no man knoweth their grave."

THE WINTER CLUSTER.

President Root remarked, that a large colony of bees will contract to the size of a popcorn ball, and winter well. In a back number of GLEANINGS the editor mentioned more in detail a case in which a whole colony was compressed into a ball about the size of an average "Northern Spy" apple, but spread out so as to cover the frames. This is probably the most favorable shape for them to hibernate in. But I do not see how they can take that shape as usually put up for winter. I am fixing my stocks in a way to admit of their making a tight ball of themselves. I am preparing honey-boards on the principle of "Hill's device," using, for the center, sections of eave-troughing cut out of 4 x 4 scantling (see figure).

The gabled part of the honey-board crosses the middle of the frames at right angles. This gives the bees access to all the frames, and they have the warmest, suggest place in the whole hive in which to hug one another when they go off into their winter sleep. There is room for a cluster three inches in diameter; and if they make it in the shape of a "roly-poly" pudding it will hold a lot of bees.

VENTILATION.

Let me shake hands with my old friend A. Benedict, whose tall figure and gray head used to adorn our conventions in "the days of yore." I am glad he is "still to the fore" as a bee-keeper. There is a great deal in his remark, "Bees need more ventilation in winter than in summer." Turn over this idea in your mind for a few minutes. Queer, isn't it, that bees should want more air in winter than in summer? It is not so with human beings. In summer we throw open our doors and windows; but in winter we keep them carefully closed. Bee life assumes two stages. In summer, activity; in winter, repose. In summer, quick wear and tear; in winter, careful hoarding up of the vital forces. Human sleep in winter may illustrate the point. We sleep in much colder apartments than we could occupy through the day. When I was a boy I used to go from a blazing fire and cosy living-room to a cold garret where I could see the stars, and the snow would sometimes drift on to the bed-clothes, but I "slept like a top," as the saying is. I think bees will "sleep like a top" too, if they have a uniform supply of pure still air.

The president responded to Mr. Benedict's remark by saying, "Our practice is to leave the entrance open full width all winter." This had reference, no doubt, to chaff-packed hives. Well, I believe the usual entrances will give bees air enough if they are kept "open full width all winter." But they are liable to become partially or wholly closed.

When this is the case, and the air-supply is diminished or cut off, the bees become uncomfortable and uneasy, unlock the cluster, and wander around in search of air. I do not think a horizontal air-shaft so good as a perpendicular one for maintaining a constant change in the air. Nature's mode of purifying the air is by vertical currents that, like an endless chain, move continually. In a beehive, with all upward ventilation closed, the air is purified by a downward and upward action that goes on slowly but surely all the time. Is it wise to trust to a horizontal passage which is liable to obstruction or complete stoppage, both from without and within? I think not. "Cyula Linswik" and her sister secure ventilation by daily seeing that these horizontal passages are clear. That is considerable trouble in an apiary of any size. Moreover, scraping the bottom-board every day with a bit of hoop iron disturbs the bees, who do best when kept in absolute quiet. Why not have a perpendicular air-shaft through the bottom-board? My plan of removing the bottom-board and substituting a hopper is perfect, because all dead bees, dry faeces (if they are dry faeces, as I believe), and all *debris*, fall out of the hive and leave it absolutely clean, while the air-supply is uniform and constant. I do not need to go near my bees from November to April, or to wake them up at any time by a rude scratching on the bottom-board. I believe a two-inch auger-hole through the bottom-board will answer well, but the hive must be raised at least a foot from the ground, or you make a door-way for mice. To tack wire gauze over the auger-hole is to nullify it altogether, because it will soon be stopped with dead bees and the *debris* that falls from the cluster. I am putting auger-holes in some bottom-boards only by way of experiment, and all my hives are from 18 inches to 2 feet above the ground.

CELLAR WINTERING.

One of the most serious objections to cellar wintering is that, when this is practiced, old bees usually die in the hive. The cellar is dark; and an expiring bee, like an expiring human being, *seeks the light*,—the former literally, the latter figuratively. Very few bees die inside the hive when wintered out of doors. In the cellar, a lot of dead bees on the bottom-board is likely, if not certain, to cause disease. Another objection to cellar wintering is the difficulty of replacing each hive on its own stand, and I, for one, believe this to be necessary, to prevent confusion. I have no doubt that spring dwindling is partly caused by spring wandering.

SUCCESSFUL WINTERING.

I do not call it successful wintering, merely to secure the survival of a colony. I passed one winter in Manitoba, and managed to survive, but got a rheumatism that has been the plague of my life for two years. I don't consider that I wintered well, though I lived through it. I want my bees to winter so as to come out in spring with clean combs, and brood in all stages, after consuming the minimum of honey. If I can get them to hibernate, they will do this every time. Not that I ever expect to winter bees absolutely without loss. There are circumstances we can not control. I have got one or two stocks I do not expect to winter. For some reason or other the queens stopped breeding early, and even now the stocks are dwindling, with plenty of stores on hand. Every day I notice a few bees coming out and taking their last flight. They fly feebly, make a few circles in the air, then fall to

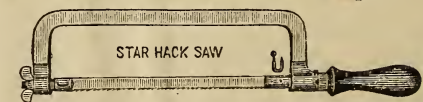
the ground, crawl about for a little while, and finally give up the ghost. A small percentage of loss must be expected. It is so in all business, and bee-keeping is no exception to the general rule. But a colony that goes into winter quarters in a really normal condition ought to be so managed as to come out all right in spring and will be, when we find out *how to do it*. I think we are on the verge of the discovery, if, indeed, it be not already made. Another spring, I firmly believe, will settle the problem for all time. WM. F. CLARKE.

Guelph, Ont., Can., Sept. 23, 1885.

SAWS THAT NEED NO FILING.

ANOTHER STEP IN MECHANICAL PROGRESS.

THE single item of filing saws has long been well understood to be an item of no small moment in our mechanical work, and many inventors have studied with a view of making some automatic machine that would take the place of the slow and expensive operation of filing by hand. Not only is the operation slow and expensive, but files are expensive. One trouble that stands in the way is, that no common day laborer could be expected to keep a machine for filing his saw, even if one were invented. Well, the Miller's Falls Co., of 74 Chambers Street, N. Y., have made a start in the business by making tempered saw-blades that are to be used until they are dull, and then thrown away, and a new blade put in. As these blades are never to be touched with a file, they are tempered much harder than any ordinary saw-blade. Below we give cuts of two different saws, arranged to work on this plan.



The first is a meat-saw, such as butchers use. The second is a hack-saw, similar to those we have for some time sold and used for sawing metals. I took one of the hack-saws that were sent me for trial, and gave it to our machinist. I told him the manufacturers guaranteed each saw to cut off a bar of half-inch iron 80 times. He tried it on a piece of inch shafting. It cut it off almost as if it were a hoe or fork handle. After the first cut he came to me saying:

"Mr. Root, how much is this tool worth?"

I told him the price was \$1.25.

He replied at once, "Here is your money. And now I want it understood that this tool is mine."

Do you want to know what the saws cost? The blades only, for the hack-saw, are 5 cts. each, or 50 cents per dozen. If wanted by mail, add 3 cts. per dozen for postage. The blades for the meat-saw are 10 cts. each, or \$1.00 per dozen. If wanted by mail, add 10

cts. per dozen for postage. The meat-saw frame alone is worth \$1.50. It is made of the best quality of polished steel, and heavily nickel-plated. The hack-saw frame alone, made in the same way, is worth 75 cts. The hack-saw frame can be sent by mail for 15 cts. extra; the meat-saw frame is not mailable. The manufacturers also make blades for wood-scroll sawing, at 10 cts. per dozen, the same price as those sold on our ten-cent counter.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, OCT. 1, 1885.

He knoweth the way that I take: when he hath tried me, I shall come forth as gold.—Job 23: 10.

We have to-day, Sept. 29, 6540 subscribers.

We expect shortly to have a new dress for the front of the juvenile department.

A VISIT TO PETER HENDERSON.

As soon as this present number is winging its way to your homes, I shall, Providence permitting, be on my way to a visit to Peter Henderson, the great market gardener of the world. Notes by the way will be found in our next issue.

HOW LATE CAN WE SHIP QUEENS?

The above question is often asked by somebody who has a good strong colony, found to be queenless late in the season. We expect to ship queens, not only all through this month, but next also, clear in to December, unless the weather is unusually severe.

THE ILLUSTRATED BIENENZEITUNG.

We have before mentioned the excellent quality of the engravings in the above journal, and the issue for September gives us some that it seems to me are ahead of any thing we have seen yet. To cap the climax, a frontispiece contains, not an engraving, but an excellent photograph of Dr. Dzierzon himself.

SELLING BEES IN THE FALL.

If it were not for the wintering troubles, the fall would be an excellent time to buy and sell bees; and where one feels sure he can winter them safely, it is an excellent time to buy bees as it is. See our advertising columns. You will notice that it is a rather poor time to sell, by the extremely low prices at which bees are offered.

PREPARING BEES FOR WINTER.

THIS matter has been gone over so thoroughly every fall for years past, it hardly seems necessary to repeat it all again. Our text-books give very full instructions, and the matter has been discussed pretty fully almost every month since the disasters of last winter. See that each colony has lots of bees,

plenty of good wholesome food, some sort of protection at the sides, with loose chaff or leaves above the cluster, and a good wide entrance that lets in the air, but excludes mice, and I think you will be all right.

MICROSCOPIC SLIDES OF THE BEE.

We have received from W. M. McAllister, Philadelphia, a full series of microscopic specimens of the bee. They are some of the finest we have ever seen, and comprise a careful selection of all the different parts of the bee, carefully mounted. Besides this, some of the specimens are injected; that is, a red fluid is pumped into some of the delicate tissues, in order that the fine markings and the structure may be more easily seen. Such objects ordinarily sell for from 25 to 50 cts. each; but we can furnish a whole dozen, put up in a neat pasteboard box, for the low price of \$1.50. These slides are $2\frac{1}{4} \times \frac{1}{4}$ inches, and are just the thing for the small microscopes we advertise. Ernest has tested them with his large instrument, and knows they are good.

ARTIFICIAL PASTURAGE.

In localities not too far north, seven-top turnip may now be put in the ground; but unless the plants have time to make a good stout root, the frosts of winter will be likely to leave them out. Raspberry-plants may be set out now; in fact, we have been setting out plants of the Cuthbert for two or three weeks past. Alsike and sweet clover may be sown in the fall, in some localities; but perhaps the safer way will be to put in the seed in the spring. Winter rape can probably be sown about the time of winter wheat, but as yet we know little about it. Can any of our readers give us any information? We tried some a year or two ago, but it was so near like our seven-top turnip that we found it difficult to tell "which from t'other."

MANUFACTURED COMB HONEY.

WHILE riding in a crowded street-car from the College Grounds in Columbus to the Fair Grounds, the conversation started on adulterated honey, and one of the "knowing ones" commenced to tell the old story of how they manufactured the comb out of paraffine and the contents out of glucose, etc. While I was waiting for a good chance to put in a word, Ernest and George Gray took the gentleman up. He was very positive until he found whom he got hold of; but the boys backed him down so quickly that he very soon acknowledged that he did not just know where the honey was made, but that he had *heard* about it. One of the reasons which he gave for declaring the honey was bogus, was that it was offered at 15 cts. per lb.; but when the boys closed down on him and offered to furnish him 5 lbs. or even less, at only 10 cts. a pound, and 50 lbs. or more at 9 cts., and honey, too, that would stand the test of analysis, quite a number of bystanders put in and wanted to know where we lived, that they might send us some orders. You see, the point is, friends, the world is not half posted. They have all read the sensational items in the papers, and have honestly decided in their own minds that no genuine honey is to be found in the markets, either comb or liquid, and so we bee-keepers have to stand the consequences. Don't let us be disheartened, however. We have the promise, that he that is patient and endureth to the end, shall eventually triumph. Meanwhile it is the duty of every one of us to do all we can to disabuse their minds in this matter.

QUEENS BY RETURN MAIL.

THE COMING BEE.

I believe that, with most all well-experienced beekeepers, it is admitted that, to take any one race of bees in its purity, the Italians are preferable to all others; and yet it is also admitted, that the Cyprians, Holy-Lands, and Carniolans all have good traits not found in the Italians. My efforts have been to combine the good traits of all other new races with the Italians, and yet retain all the good traits of the Italians, and I am happy to say that I have succeeded, even beyond my most sanguine expectation.

HOW I DID IT.

In the first place, the Italians, being the best, I took them as the basis. From a fine imported Italian queen I raised a number of young queens; and before these were ready to become mated I contracted the entrance of all hives except the Holy-Land bees, so as to not permit the drones to fly. Well, as there was quite a number of Holy-Land drones I succeeded in having some of these young queens mated with them. Next I selected two of the queens thus mated (which were very large), and from these two another lot of queens was raised; and by the same method I obtained some very fine queens mated with Cyprian drones, and these are the queens I use to raise from. Now, take notice: as I allow no drones to fly except Italian, and as all bees near me are Italians, all queens raised from these crosses will be mated with Italian drones. Such queens produce fine, large, prolific, and energetic workers.

If you would like to see some live samples of workers, send two letter-stamps and I will mail you a dozen or so.

Will send queens raised from imported stock, if preferred. The Carniolan queens I raise will be pure Carniolans, and mated with Italian drones. All races will be sold at the same price.

	Oct.	Nov.
Single queens, untested, but laying, each,	\$1 00	\$1 00
Six or more, each	90	90
Single queen, tested	1 50	1 50
Six or more, each	1 40	1 40

CHAS. KINGSLEY,

Benton, Bossier Co., Louisiana.

19d

Oldest Bee Paper in America—Established in 1861.

AMERICAN BEE JOURNAL,

16-page Weekly—\$1.00 a year.

Sample Free. THOMAS G. NEWMAN & SON,
925 West Madison Street, Chicago, Ill.

FOR SALE,

A SECOND-HAND TWO-HORSE-POWER EUREKA ENGINE AND BOILER.

The above engine has been in use about five years; but Mr. A. F. Stauffer, of Sterling, Ill., of whom we purchased it, writes in regard to it as follows:

I guarantee the engine to be in good working shape, as good as it ever was. I had boiler examined last spring by a steam-fitter, and he pronounced it as good as new. I always used soft water. I am furnishing my shop with new machinery and am anxious to sell or exchange it. I have to get more machinery, and my two-horse power is too light.

Sterling, Ill.

A. F. STAUFFER.

We will sell the above engine, to be taken at Sterling, Ill., for an even \$100, and we will put our guarantee on top of that of friend S. We obtained it of him in exchange for some new machinery, he, of course, putting in a larger engine and boiler.

Also one second-hand **Pony Planer** for sale. This planer is one that we used in our factory for planing all our basswood plank, heavy lumber, etc., and was set aside only because of the increase of our business. The plane is 24 inches in width, and such a machine would cost new \$140 net cash. It is all in good trim, and ready for work, with an extra pair of new knives, and it will be sold for half price, or \$70.00.

A. I. ROOT, Medina, Ohio.

85 COLONIES OF BEES FOR SALE

Syrio-Italians, Red-Clover Italians, and Hybrids, all on L. frames, mostly wired. Wishing to go south for my health, I offer the above in lots of five or more at \$5.00 per colony, or \$360 for the lot, if taken soon, together with extractor, section cases, extra frames, and fixtures. All requested from the best strains this year.

J. SINGLETON,

19d

34 Public Square, Cleveland, O.

Wanted. To buy a small farm and apiary. Give terms of sale, honey resources, distance to school and church. California given preference.

19d

E. S. ARWINE,
Patterson, Waller Co., Texas.

For Sale. Eight Colonies of Bees in 1½-story Simplicity hives; granulated sugar stores, all complete for wintering, at \$8.00 per colony.

19d

H. B. BONEAR,
Cherry Ridge, Wayne Co., Pa.

For Christmas, 50 SCROLL-SAW DESIGNS for working brackets, easels, etc., 10c. J. L. HYDE, POMFRET LANDING, CONN. 19tdb

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AT GREATLY REDUCED PRICES.

SECOND QUALITY WIRE CLOTH AT 1½ CTS. PER SQUARE FT.

SOME OF THE USES TO WHICH THIS WIRE CLOTH CAN BE APPLIED.

This wire cloth is second quality. It will answer nicely for covering doors and windows, to keep out flies; for covering bee-hives and cages for shipping bees; making sieves for sifting seeds, etc.

Number of Square Feet contained in each Roll Respectively.

Inches Wide.	No. of Rolls.	
10	3	rolls of 75, 72 s. f.
12	2	rolls, 100 s. f. each.
20	3	rolls of 166 s. f. each.
22	4	rolls of 181, 1 of 169 s. f.
24	6	rolls of 200, 1 of 180, and 1 of 120 s. f.
26	7	rolls of 217, 38 of 216, 2 of 195, 1 of 156, 1 of 152, 2 of 215, 1 of 210 s. f.
28	16	rolls of 223, and 2 of 234 s. f.
34	7	rolls of 281 s. f.
36		
38	37	rolls of 316, 3 of 285, 2 of 317, 1 each of 190, 632, 126, and 215 s. f.
42	1	roll of 245 s. f.
44	2	rolls of 366, 1 of 348 s. f.
46	1	roll of 152 s. f.
48	12	rolls of 400, 1 of 100, 1 of 50 s. f.

FIRST QUALITY WIRE CLOTH AT 1¼ CTS. PER SQUARE FT.

The following is first quality, and is worth 1¼ cts. per square foot. It can be used for any purpose for which wire cloth is ordinarily used; and even at 1¼ cts. per sq. ft. it is far below the prices usually charged at hardware and furnishing stores, as you will ascertain by making inquiry. We were able to secure this very low price by buying a quantity of over one thousand dollars' worth.

Inches Wide.	
20	1 roll of 155 s. f.
22	1 roll each of 88, 143, 92 s. f.
24	43 rolls of 200 sq. ft. each; 1 each of 80, 96, 120, 168, 190, 280, 150, 140 sq. ft.
26	58 rolls of 216 sq. ft. each; 1 each of 195, 195, 200, 200, 201, 227, 201, 204 sq. ft.
28	76 rolls of 233, 6 of 224, 3 of 219, 8 of 222, 7 of 224, 2 of 219, 1 of 117 sq. ft.; 1 each of 70, 210, 245, 237, 240, 215, 110 33, 82 sq. ft.
30	36 rolls of 250 sq. ft.; 1 each of 82, 137, 115, 117, 125, 128, 220, 225, 227, 237, 235, 275, 240, 157 sq. ft.
32	14 of 206, 7 of 256, 2 of 253 square ft.; 1 each of 233, 231, 147, sq. ft.
34	31 rolls of 283 sq. ft. each; 1 each of 62, 113, 198 sq. ft.
36	22 rolls of 300 sq. ft. each; 2 of 72, 1 each of 288, 150, 279, 285 sq. ft.
38	1 roll each of 300 and 316 sq. ft.
40	1 roll of 223 square feet.
42	1 roll of 350 square feet.
46	1 roll of 192 square feet.

A. I. ROOT, Medina, Ohio.

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POLAND CHINA PIGS

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In buying books, as every thing else, we are liable to disappointment, if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them for sale, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage shall not be disappointed, and therefore I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *; those I especially approve, **; those that are not up to times, †; books that contain but little matter for the price, large type, and much space between the lines, ‡; foreign, §.

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